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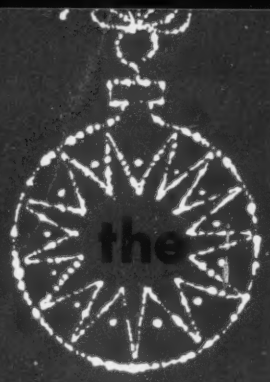

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WALTER E. BROWN, M.D.
President, Oklahoma State Medical Association

MAY THE HAPPINESS OF THE CHRISTMAS SEASON BE YOURS THROUGHOUT THE NEW YEAR...

Editorial

The Internal Medical Audit

Recently a group composed of over two hundred professional personnel representing various departmental heads, hospital administrators, hospital librarians and others, met at Denver, Colorado, to consider the subject of the "Internal Medical Audit."

This meeting was a three-day session sponsored by the Colorado School of Medicine on a post-graduate level and it was the first of its kind developed around such a topic. The agenda of speakers and moderators at this meeting were such experts on hospital administration and organization as Doctor Kenneth B. Babcock, Director of the Joint Commission on Accreditation of Hospitals; Doctor G. Karl Fenn, Director of the Study of Hospital Standards in Medicine, Chicago, Illinois; Doctor Paul R. Hawley, Director of the American College of Surgeons; Doctor Robert S. Myers, Executive Assistant Director, American College of Surgeons; and many others, all well known in the educational and organizational field of medicine.

The idea of a medical audit is not new. The well known tissue committee which functions in every well organized hospital is an audit committee. This committee determines by a review of the hospital records whether there is sufficient justification for the removal of the normal tissue which compose a certain percentage of tissue sent to the laboratory from hospital operations. If such tissue has been unjustifiably removed it would indicate bad surgical judgment is being exercised on the part of the surgeons involved.

However, the kind of audit committee as discussed at this meeting functions on a broader scale than that of a regular tissue committee. This group would examine the hospital records of patients admitted with certain disease conditions to determine whether the quality of care given for their clinical management was up to an acceptable standard; the standard being set as to what the committee agrees is good clinical practice for that particular disease condition. Deviations as to what the committee considers as generally acceptable clinical practice methods would merit not only conference with the doctor involved but possibly would be referred to the department or staff for subsequent conference for correction.

The Committee

How is an internal audit committee organized and how does it function? It is a group composed entirely of active staff members and possibly a few others, such as hospital librarians who may be helpful in providing technical assistance for a review of the records. No outside personnel is involved in a hospital audit, nor does an individual doctor ever audit his own records. It is primarily an objective, critical survey of hospital records to evaluate and appraise the quality of clinical practice that obtains in a hospital.

The committee acts only as a fact-finding group for the staff, it does not attempt a review of everything on a clinical record, and tends to limit its examination of the records to finding an answer to one or more hypothetical questions asked about the particulars of hospital management for those disease conditions of which they are auditing. For example: is antibiotic therapy used carelessly in certain disease conditions; or is the laboratory being over-utilized; or are there not enough laboratory tests to properly manage certain diseases?

Suppose from the review of the records the committee finds that wrong method of treatment, poor clinical judgment, or even actual mismanagement is demonstrable among a few physicians of the staff prac-

ticing in that hospital, what then? The committee will first confer with the doctor about the problem and afterwards may refer these facts in question to the staff or even the hospital board for what corrective measures they see fit to impose. It must be emphasized that an audit committee never serves as a punitive group, it is primarily educative. Its only objective is to improve the quality of medical practice.

The Responsibilty of the Hospital Staff

Does a hospital staff have the responsibility to be critical of their fellow staff members? Most physicians will undoubtedly agree that it has this responsibility to the profession as well as the community. A hospital interested in maintaining a high quality of clinical work must function somewhat as its "brother's keeper," for a staff which permits wrong or poor practices to continue in a hospital is definitely open to public censure.

Specifically, how does such an audit committee go about its work of reviewing the records? The best example is in the use of antibiotics as they are sometimes carelessly prescribed for certain disease conditions. It is generally agreed by most physicians that antibiotics used for prophylaxis against infection in clean and uncomplicated surgical wounds as it prevails in inguinal herniorrhaphies is not good medical practice. If the audit committee finds from a review of a series of inguinal herniorrhaphies that antibiotics are so being used, that is subject material for departmental or staff conferences for its correction. Usually, the doctor involved when confronted with the facts obtained from the audit committee will cease or change his practices to conform to the general opinion as to what constitutes good clinical work in the hospital. It is a rare physician who flaunts the general medical opinion as to what constitutes good medical practice.

The Scope

Medical audit committees meet at regular intervals throughout the year. One month they may audit inguinal herniorrhaphies, the next it may be coronary occlusions, and the following month a certain gynecological procedure; or, it may even be the use of laboratory tests, such as blood sugars, urinalyses; or, blood counts. A suitable field for the committee to examine is the recorded indications for blood transfusions often given in the hospitals. There is no limit to the field of clinical practice in the hospital to be covered by internal medical audits.

The internal medical audit committee not only will upgrade the quality of clinical work by continuous and repeated auditing of records in the hospital but its work will inevitably improve the quality of clinical records. The doctors who serve on the audit committee tend to see the value of good written records and particularly when they know that their colleagues may critically examine their records.

Professional Activity Study—PAS

There is an organization to aid hospitals in making medical audits easier. It is a nonprofit group sponsored by the American College of Physicians, American College of Surgeons, American Hospital Association, and Southwestern Michigan Hospital Council and is under the direction of Doctor Virgil N. Slee. This group was organized in 1952 and was financed by the Kellogg Foundation for the objective of developing better auditing methods for clinical practice in hospitals.

The organization is called PAS—Professional Activity Study. Since 1952 it has functioned and approximately 150 member hospitals are served by this commission. At the present time about 1,350,000 patients' records are filed in the commission's library.

Case abstracting in the PAS plan requires about five minutes per clinical record and costs members 25 cents per abstract. When PAS is started in a hospital the commission instructs the hospital librarian in the technique of abstracting records for their subsequent codefication and filing in the commission's office at Ann Arbor, Michigan. After codefication PAS will then give to any member hospital a summarization of their records as requested. In addition, PAS will send the hospital comparative studies of clinical practice in other hospitals to guide mem-

bers as to subsequent audits. Because PAS service supplies all the basic statistical studies necessary for the hospital, it actually saves the hospital clerical expenses in the long run.

The presence of an active internal medical audit committee in a hospital will be an important asset to the hospital to justify continued accreditation of the hospital in the future. Future accreditations may be based a great deal upon how effective a hospital audit committee is functioning. A hospital that does not critically appraise its staff work through an audit committee will find it difficult to demonstrate to the accreditation committee they are maintaining the best of hospital standards for good clinical care.

With the approach of more and more socialization in the practice of medicine, audits of hospital records will become more and more important, for it stands to reason if a third party begins to exercise more authority in the field of health care, medical audits of clinical procedures will become necessary. If a staff then does not audit its own hospital work, a third party will take over the responsibility. And if a staff permits a third party to audit how they practice medicine, they will have no one but themselves to blame when they lose their freedom in the practice of medicine. An Internal Medical Audit Committee in a hospital is an important safeguard to prevent this loss of freedom.
Don W. Branham, M.D.

Physician's Prayer

Thank God for Christmas. On this night
Heaven's radiant star from long ago
Bespeaks God's gift to earth below.
No man-made moon or satellite
Dims its celestial glow.

Thank God for wisdom. Help me hold
Fast to the verities that bind
All new conceptions of the mind
With judgment of the proven old—
That I may help mankind.

Thank God for faith. Let me not doubt
That by Thy will, electrons seethe
And man controls the air we breathe.
Pray Lord, sieve clouds of rank fallout—
Lest every mortal grieve.

Thank God for skill. My soul would weep
If by my rough, untutored try
A helpless child should sound a cry,
Or man in anguish should not sleep—
Or new-born babe should die.

Thank God for love. God's medicine!
When nations threat of bloody wars
Pray by some secret of the stars
That rulers find self-discipline—
And love shall heal the scars.

Marjorie Howard

Scientific Articles

A Football Camp Outbreak of Aseptic Meningitis Due to Echo 9 Virus

CHARLES E. GREEN, M.D.

F. R. HASSLER, M.D., M.P.H.

Since graduating from Indiana University School of Medicine in 1942, Charles E. Green, M.D., has been certified by the American Board of Pediatrics. In addition to his private practice in Lawton, Oklahoma, Doctor Green is visiting lecturer in Pediatrics at the University of Oklahoma School of Medicine. He has been the physician for Lawton High School Athletic teams for the past twelve years.

Doctor Green is a member of the American Academy of Pediatrics as well as the Oklahoma Chapter of the group.

F. R. Hassler, M.D., M.P.H., received his M.D., degree from the University of Oklahoma School of Medicine in 1937 and his Master of Public Health from Johns Hopkins in 1941. He is certified by the American Board of Preventive Medicine and Public Health and is serving as Director of the Division of Laboratories at the Oklahoma State Department of Health.

He is a Fellow of the American Public Health Association, a member of the Board of Directors of the Oklahoma State Tuberculosis Association, and a Consultant to the U.S. Public Health Service on Serologic tests for Syphilis and Drinking Water.

ON AUGUST 25, 1959, the Lawton High-school football team opened camp at Ft. Sill, Oklahoma, with ninety boys in attendance. All of these boys had been examined and checked by a team of physicians from the Comanche County Medical Society.

Three days later, August 28, two boys left camp because of illness. Chief complaints were fever, anorexia, nausea and vomiting. The next morning six boys were unable to report for practice because of headache, fever and nausea.

The camp was terminated at noon on August 29 and the boys returned to their homes in Lawton. Saturday night and Sunday (August 29 and 30) the team physician received calls from seventeen boys who were also complaining of severe headache, malaise, stiff neck, fever, nausea and vomiting. Two of the boys were hospitalized at Ft. Sill Station Hospital and one at the Southwestern Hospital in Lawton.

Synopsis of the Hospital Records on These Cases

Case I. R.O.C., Jr.—White, male, age 16, hospitalized at Ft. Sill. This patient was admitted August 31, 1959, discharged September 8, 1959. This patient had been ill six days prior to entry and the chief complaints were headache, backache, chills and fever. He had sustained some minor type of back injury during football scrimmage at the onset of his present illness. Low grade fever was noted two or three days before admission and on the night before, headache and fever became more prominent. He denied other symptoms. On admission his blood pressure was 110/60, temperature 100.2, pulse 72 and weight 143 pounds. His neck was stiff and generalized lymphadeno-

pathy was noted. There was a rash almost too faint to be seen over the thorax. No specific neurologic signs were elicited. Cerebro-spinal fluid under normal pressure contained 125 lymphocytes per cubic millimeter. The CSF total protein was 29 mg%. The remainder of the laboratory data was within the limits of normal (hemogram, urinalysis, CSF sugar, smears and culture of spinal fluid). During the three days following admission, he spiked a fever daily to about 103° and thereafter it decreased to within normal limits. While febrile, the patient was uncomfortable and continued to complain of headache and pain in the back. During hospitalization the patient was treated with analgesics only and was discharged asymtomatic. It was thought that the patient had acute meningitis, probably of viral origin.

Case #2. R.E.D.—White, male, age 15, hospitalized at Ft. Sill Hospital, admitted September 7 and discharged September 12, 1959. He had been mildly ill for eight days prior to admission. During this time he had received two immunizations by injection. Two days before entry he had had some vesicles which had crusted just prior to the onset of severe headache. He became febrile, anorexic, and began to vomit during the day prior to admission. Upon entry the physical examination revealed a moderately injected pharynx, a markedly stiff neck, no specific neurologic signs and the remainder of the examination was without note. A lumbar puncture performed at the time of admission revealed 49 lymphocytes per cubic millimeter and a total protein of 84.4 mg%. The urinalysis and hemogram were within normal limits. A smear and culture of the spinal fluid were negative. During the first three days of hospitalization, the patient's temperature declined to normal, and his severe headache disappeared. The patient was discharged asymptomatic. It was thought that he had acute meningitis, probably of viral origin.

Case #3. W.L.—White, male, age 15, hospitalized at Southwestern Hospital, Lawton, admitted September 1, 1959 and discharged September 4, 1959. The history of this patient was very similar to the other two who had been admitted to the Ft. Sill Hospital. He complained of illness for three days prior to admission. The symptoms were headache, vomiting, malaise and a low grade fever. The laboratory findings were as follows:

Heterophile agglutination—Negative
Urinalysis—Negative
Hemoglobin—14
White blood count—7,800
Lymphocytes—43%
Non-lymphocytes—57%
Hemocrit—42

A virus infection, either due to Coxsackie virus or Echo virus, was suspected and pharyngeal washings were taken on seven of the boys who were ill in their homes. For these washings, approximately one-half ounce of sterile nutrient broth was used as a gargle and these broth specimens were then packed in ice and sent to the Virus Laboratory of the Oklahoma State Department of Health in Oklahoma City.

Inoculations were made in the following tissue cultures: monkey kidney (primary); monkey kidney (continuous); KB; amnion and hela. Suckling mice were also inoculated. A virus was isolated in monkey kidney cells (primary) and in amnion cells on three of the seven patients. Mice inoculated with specimens from these same patients became paralyzed and died.

In an attempt to identify the virus isolated, virus neutralization tests were made, using a number of specific antisera. The virus neutralization test was positive to Echo 9 antisera and the virus was identified as Echo 9. According to the best information we have, Echo 9 is the only Echo virus that will produce paralysis and death in suckling mice. Suckling mice are used primarily for the identification of many types of Coxsackie virus. The Echo 9 virus was isolated and identified from three of the Lawton Highschool football players. These were P.B., R.P. and R.V., white males, 15 and 16 years of age. In general the treatment used was Chloramphenicol, analgesics, fluid and bed rest. The boys were out of school from one week to ten days and were unable to return to football practice for approximately two weeks.

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LARYNGEAL CARCINOMA

A Review of 129 Cases*

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Doctor Barnhill is a member of the Association of Military Surgeons.

ONE HUNDRED AND TWENTY-NINE cases of laryngeal carcinoma diagnosed by biopsy have been reviewed. The information was obtained from the records of all cases of laryngeal carcinoma admitted to two hospitals during the seventeen year period from August, 1941, to August, 1958. The hospitals were Oklahoma University Hospitals, largely a charity institution, and Wesley Hospital, a private hospital, both located in Oklahoma City, Oklahoma. Forty-two cases were found at Wesley Hospital and 87 at Oklahoma University Hospitals.

The statistical data in this group of patients concerning incidence, smoking habits, drinking habits, occupations, family histories, symptomatology, metastasis, and location of the primary lesion is presented.

An attempt has been made in this review to analyze some of the factors which might affect the prognosis of these patients. Survival times are correlated with presence or absence of metastasis, location of the primary lesion, and various methods of therapy.

Incidence

The incidence of carcinoma of the larynx has been reported to be on the increase. Blatzell and Putney found that this disease has been occurring seven times more frequently in the past ten years than in the previous twenty-five years.[1] Cancer of the larynx comprises approximately 4 per cent of all human malignancies.

Sex, Race, and Age Distribution

In this study, 118, or 91.5 per cent, of the patients were males, giving a ratio of fe-

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males to males of 1:11.7. The sex distribution reported by other authors varies from 1:9 to 1:13, but all reports show a greater frequency in males.[1,2,3,4,5] Five, or 3.9 per cent, of the cases in this report were Negroes and one was an Indian. The American Cancer Society estimates the corrected frequency in Negroes compared to whites is one Negro case to every 1.5 white cases.

In this study the average age of patients at diagnosis was 60.7 years with a median of 60 years. There was an age range from 35 to 88 years. Other authors confirm the fact that a great majority of cases occur in the fifth, sixth and seventh decade with a median age of 61 years.[1,6]

Smoking Habits

In this study the smoking habits of 60 patients with carcinoma of the larynx were reviewed, and of these 60 patients, eight denied using tobacco in any form. Fifty-two patients admitted using tobacco: five smoked pipes, two smoked cigars, one chewed tobacco, and 44 smoked cigarettes. The 44 who smoked cigarettes consumed an average of 31 cigarettes per day.

Drinking Habits

In this study, 36 patients were questioned as to drinking habits. Twenty patients admitted consuming some quantity of alcohol. Two patients felt they were heavy drinkers, and one patient was a known alcoholic. The others were only occasional or moderate drinkers. Sixteen of the patients questioned denied alcoholic intake.

Occupations

In this study 93 patients were questioned about their occupations. Of the 93, 56 had occupations concerned primarily with working out of doors. (There were 34 farmers, six laborers, and 16 miscellaneous outdoor workers.) The other 37 patients seemed to have a variety of indoor occupations.

Family Histories

Seventy-two patients were questioned as to whether there was a history of cancer in their families. Twenty-seven patients, or 37.5 per cent, had a positive family history of cancer, and one patient's father had had carcinoma of the larynx. The frequency of a positive family history of carcinoma in other groups of patients with carcinoma of the larynx has been reported as 19 per cent and 16.4 per cent by Thompson and Clerf respectively.[7,8]

Histological Type

Of the 129 total cases, all but three cases were confirmed by biopsy at University Hospital or Wesley Hospital. Three cases were previously confirmed at other hospitals by biopsies. Of the 126 patients who had biopsies at Oklahoma University Hospitals or Wesley Hospital, 122 had squamous cell carcinoma, one a mixture of squamous cell and fibrosarcoma, one a mixture of squamous cell and myxomatous tissue, one an adenocarcinoma, and one had a highly undifferentiated and unidentifiable neoplastic growth.

Symptoms

Some of the patients had more than one initial symptom, which accounts for a total greater than 129 in table I below.

Initial Symptom	No. of Patients
Hoarseness	88
Sore Throat	18
Dysphagia	15
"Lump" in Neck	12
Pain	9
Cough	7
Discomfort in Throat	7
Habit of Clearing Throat Prior to Speech	3
Dyspnea	2
Weight Loss	2
Hemoptysis	1
Aphonia	1

Table I. Symptoms.

Hoarseness was the first and only symptom in 27 patients. Hoarseness was noted initially in conjunction with some other symptoms in 23. In 38 cases, hoarseness was noted initially and was followed by other symptoms at a later time.

The duration of symptoms before diagnosis was recorded in 124 of the cases, and the duration ranged from one week to 180 months. The average duration was 15.2 months, and the median duration was 7 months. (See table II for relationship of metastasis to duration of symptoms.)

Metastasis

In this study 55 patients, or 42.6 per cent, had cervical metastasis at the time of diagnosis. Two of these patients were not thought to have metastasis but were treated with prophylactic neck dissections and showed positive nodes. Thirteen patients were treated with radical neck dissections that did not have glandular involvement. Ogura and Bello[9] found seven of 18 patients treated with prophylactic neck dissections to have positive nodes; and Putney[10] reports that 66 per cent of his patients had cervical metastasis, 26 per cent of whom did not have palpable nodes.

In this study metastasis to other than cervical structures at the time of diagnosis was not noted in any case. Fifty-five patients did not have evidence of metastasis at the time of diagnosis. Nineteen patients are reported as having questionable metastasis. This includes patients whose charts were incomplete or not adequate in this regard. It also includes those patients who had palpable cervical nodes that were freely movable, not fixed to surrounding structures, not greatly enlarged, and not hard in consistency.

The following table relates the duration of symptoms to the presence or absence of metastasis at the time of diagnosis.

No. of Patients	Metastasis	Avg. Duration of Symptoms	Median Duration of Symptoms
55	Without metastasis	18.6 months	7.5 months
55	With metastasis	11.5 months	7.0 months
19	Questionable metastasis	17.3 months	5.5 months

Table II. Duration of symptoms related to metastasis.

Metastasis does not seem to be greatly related to the duration of symptoms as noted in table II, except that the group with metastasis seemed to come to the doctor earlier. The incidence of metastasis seems to be more closely related to the site of the primary lesion as noted in table III. The site of the primary lesion is classified according to Walsh.[12] This classification of laryngeal tumors classifies them with relation to anatomical site and extension. Walsh's classification is as follows:

1. *Intrinsic* is a tumor confined to the true vocal cord. The cord must be movable. The tumor may cross the anterior commissure and extend down the opposite cord.

2. *Endolaryngeal* refers to all tumors within the voice box; that is, tumors that involve the ventricle, false cords, and/or fixation of the true cords.

3. *Subglottic* is a primary tumor that arises just beneath the true vocal cord. Such a tumor is extensive when it involves the true vocal cord. A true cord carcinoma that extends supraglottic and/or subglottic is no longer intrinsic.

4. *Extrinsic* is a primary lesion that involves the epiglottis, aryepiglottic fold, or pyriform sinus.

The following table relates metastasis with the location of the primary lesion.

LOCATION	METASTASIS			
	Without	With	Question-able	Total
Intrinsic	28 (70%)	8 (20%)	4 (10%)	40 (31%)
Extrinsic	10 (17%)	40 (68%)	9 (15%)	59 (45.5%)
Subglottic	4 (50%)	2 (25%)	2 (25%)	8 (6.2%)
Endolaryngeal	13 (65%)	5 (30%)	1 (5%)	19 (14.8%)
Not Classified			3	3

Table III. Metastasis related to location of lesion.

Sixty-eight per cent of those with extrinsic carcinoma of the larynx had metastasis at the time of diagnosis. In contrast, only 20 per cent of those with intrinsic carcinoma of the larynx had metastasis at the time of diagnosis.

Three cases were not classified according to their location. All of these had questionable metastasis.

The relationship of the survival of patients after therapy to the site of their primary lesion is presented in the following

Years after therapy	0-1	1-2	2-3	3-4	4-5	Over 5	Total
Alive without recurrence	1	3	0	3	2	7	16
Dead of disease	9	2	1	0	1	2	15
Alive with recurrence	0	0	0	0	0	0	0
Dead, other cause, without recurrence	0	0	0	1	0	2	3
							34

Table IV. Survival of patients with intrinsic lesions.

tables: 19 patients are omitted from the following four tables because they were not followed and/or not treated and/or not classified.

Years after therapy	0-1	1-2	2-3	3-4	4-5	Over 5	Total
Alive without recurrence	2	6	4	2	0	0	14
Dead of disease	22	10	1	0	0	1	34
Alive with recurrence	1	1	0	0	0	1	3
Dead, other cause, without recurrence	0	0	0	0	0	1	1
							52

Table V. Survival of patients with extrinsic lesions.

Years after therapy	0-1	1-2	2-3	3-4	4-5	Over 5	Total
Alive without recurrence	1	1	0	1	0	1	4
Dead of disease	3	1	0	0	0	0	4
Alive with recurrence	0	0	0	0	0	0	0
Dead, other cause, without recurrence	0	0	0	0	0	0	0
							8

Table VI. Survival of patients with subglottic lesions.

Years after therapy	0-1	1-2	2-3	3-4	4-5	Over 5	Total
Alive without recurrence	0	3	0	4	0	0	7
Dead of disease	4	3	0	1	0	0	8
Alive with recurrence	0	0	0	1	0	0	1
Dead, other cause, without recurrence	0	0	0	0	0	1	1
							17

Table VII. Survival of patients with endolaryngeal lesions.

Years after therapy	0-1	1-2	2-3	3-4	4-5	Over 5	Total
Alive without recurrence	1	5	6	7	2	6	27
Dead of disease	5	3	0	0	2	1	11
Alive with recurrence	0	0	0	2	0	0	2
Dead, other causes, without recurrence	0	0	0	0	1	3	4
							44

Table VIII. Survival of patients without metastasis.

Years after therapy	0-1	1-2	2-3	3-4	4-5	Over 5	Total
Alive without recurrence	1	5	3	1	2	3	15
Dead of disease	14	10	3	1	0	4	32
Alive with recurrence	1	0	0	1	1	0	3
Dead, other causes, without recurrence	0	0	0	0	1	0	1
							51

Table IX. Survival of Patients with metastasis.

Survival after therapy is related to metastasis in the following tables: 34 patients are omitted from the following tables because they were not followed and/or not treated and/or had questionable metastasis.

Therapy

The treatment of the patients studied was in no way standardized, and many different procedures were performed. Ten of the patients received no therapy for various reasons, and 10 patients treated have no follow-ups. The evaluation of therapy is further complicated by the lack of a standardized criterion of "cure" due to the fact that car-

Therapy	Number of patients treated	Alive without recurrence	Dead of disease	Dead less than 1 week post therapy	Alive with recurrence	Dead, other causes, without recurrence	Status Unknown
Laryngectomy and external irradiation	2	0	2	0	0	0	0
Laryngectomy, external irradiation and unilateral neck dissection	12	5	5	0	1	0	1
Laryngectomy and unilateral radical neck dissection	13	6	4	3	0	0	0
Laryngectomy and bilateral neck dissection	2	1	1	0	0	0	0
Laryngectomy, external irradiation and bilateral neck dissection	1	0	0	0	0	0	1
External irradiation only	22	1	20	0	0	0	1
Total	52	13	32	3	1	0	3

Table X. Therapy of patients with metastasis.

Therapy	Number of patients treated	Alive without recurrence	Dead of disease	Dead less than 1 week post therapy	Alive with recurrence	Dead, other causes, without recurrence	Status Unknown
External irradiation only	11	2	7	0	2	0	0
Tracheostomy (palliative)	1	0	0	0	0	0	1
Laryngectomy	1	0	0	0	0	0	1
Laryngectomy and external irradiation	2	1	1	0	0	0	0
Laryngectomy, external irradiation and radical neck dissection (unilateral)	1	0	1	0	0	0	0
Total	16	3	9	0	2	0	2

Table XI. Therapy of patients with questionable metastasis.

Therapy	Number of patients treated	Alive without recurrence	Dead of disease	Dead less than 1 week post therapy	Alive with recurrence	Dead, other causes, without recurrence	Status Unknown
Laryngofissures	7	3	1	0	1	0	2
Hemilaryngectomy	1	0	0	0	1	0	0
Laryngectomy	20	16	0	1	0	3	1
Laryngectomy and external irradiation	4	0	4	0	0	0	0
Laryngectomy and unilateral neck dissection	10	7	0	0	0	1	2
Laryngectomy and bilateral radical neck dissection	1	0	0	1	0	0	0
External irradiation only	8	3	5	0	0	0	0
Total	51	29	10	2	2	4	5

Table XII. Therapy of patients without metastasis.

cinoma of the larynx tends to recur many years after definitive curative procedures are done. Since this is true, and a large number of patients in this study were treated less than five years ago, survival times and general status as to recurrence and other causes of death have been utilized as a criterion of therapy.

The patients who received irradiation therapy were largely the group whose lesions were extensive. In a large percentage of cases the irradiation therapy was palliative. This accounts for the poor survival of patients treated primarily with radiation therapy. (See table XIX.)

It should, however, be noted that Wang[11] reports 150 cases treated with irradiation, and in his study a 29 per cent five-year survival was obtained in those patients who did not have metastasis, and only 8 per cent five-year survival in those patients who did have metastasis.

In most, if not all, cases reported as "without recurrence," laryngoscopic examinations have been performed. Tables X, XI and XII present the general states of patients with, without and with questionable metastasis after various forms of therapy.

The following five tables present the survival times of years for the various methods of treatment of carcinoma of the larynx. The survival times of all patients treated (including palliative therapy) are presented in table XVIII.

Total 41	One patient not followed						
Years after therapy	0-1	1-2	2-3	3-4	4-5	Over 5	Total
Alive without recurrence	0	1	1	0	1	3	6
Dead of disease	14	11	2	1	0	4	32
Alive with recurrence	0	0	0	0	1	0	1
Dead, other causes, without recurrence	0	0	0	0	0	1	1

Table XIII. Survival of patients treated with external irradiation only.

Total 20	One patient not followed						
Years after therapy	0-1	1-2	2-3	3-4	4-5	Over 5	Total
Alive without recurrence	0	3	2	4	2	5	16
Dead of disease	0	0	0	0	0	0	0
Alive with recurrence	0	0	1	0	0	0	1
Dead, other causes, without recurrence	0	0	0	0	1	2	3

Table XIV. Survival of patients treated with laryngectomies only.

Total 7	Two patients not followed						
Years after therapy	0-1	1-2	2-3	3-4	4-5	Over 5	Total
Alive without recurrence	0	0	0	2	0	1	3
Dead of disease	0	0	0	0	0	1	1
Alive with recurrence	0	0	0	1	0	0	1
Dead, other causes, without recurrence	0	0	0	0	0	0	0

Table XV. Survival of patients treated with laryngofissures only.

Total 26	Two patients not followed						
Years after therapy	0-1	1-2	2-3	3-4	4-5	Over 5	Total
Alive without recurrence	0	4	5	2	0	2	13
Dead of disease	6	4	0	0	0	0	10
Alive with recurrence	0	0	0	0	0	0	0
Dead, other causes, without recurrence	0	0	0	0	0	1	1

Table XVI. Survival of patients treated with laryngectomy and radical neck dissections.

Total 14	One patient not followed						
Years after therapy	0-1	1-2	2-3	3-4	4-5	Over 5	Total
Alive without recurrence	0	3	1	0	1	0	5
Dead of disease	3	2	0	0	0	0	5
Alive with recurrence	2	0	0	1	0	0	3
Dead, other causes, without recurrence	0	0	0	0	0	0	0

Table XVIII. Survival of patients treated with laryngectomy, external irradiation and radical neck dissection.

Total 119	Ten patients not followed						
Years after therapy	0-1	1-2	2-3	3-4	4-5	Over 5	Total
Alive without recurrence	1	11	9	8	5	11	45
Dead of disease	24	20	2	2	1	6	55
Alive with recurrence	1	0	1	3	0	0	5
Dead, other causes, without recurrence	0	0	0	0	1	3	4

Table XVIII. Survival of all patients treated.

Of the 10 patients who received no therapy, four died of carcinoma of the larynx less than 36 months after diagnosis, two are alive more than 36 months after diagnosis, and the status of the four others is unknown.

Summary

One hundred and twenty-nine cases of laryngeal carcinoma by biopsy have been reviewed. Ninety-one and five-tenths per cent of these patients were males, and only 3.9 per cent were Negroes. The average age of patients at the time of diagnosis was 60.7 years. Eighty-eight per cent of 60 patients questioned about smoking habits admitted using tobacco in some form. Sixty per cent of 93 patients questioned about their occupations were out-of-door workers. Thirty-five per cent of 72 patients questioned had a positive family history of cancer.

No. of Patients	Therapy	WITHOUT METASTASIS		WITH METASTASIS	
		Alive without recurrence	Dead of disease	Alive without recurrence	Dead of disease
29	Irradiation only	3	5	1	20
16	Laryngectomy	16	0	0	0
21	Laryngectomy and radical neck dissection	7	1	6	7
6	Laryngectomy and irradiation	0	4	0	2
10	Laryngectomy, radical neck dissection and irradiation	0	0	5	5
—		—	—	—	—
82	Total	26	10	12	34

Table XIX. Survival of patients related to treatment and metastasis.

Ninety-six and eight-tenths per cent of the lesions were squamous cell carcinoma. Various symptoms were noted by these patients, but the most frequent and often earliest symptom noted was hoarseness. Fifty-five patients had metastasis, and 19 patients had questionable metastasis at the time of diagnosis. Fifty-five patients did not show evidence of metastasis at the time of diagnosis.

The location of the lesion has been classified according to Walsh. Thirty-one per cent of the lesions were intrinsic, 46 per cent of the lesions were extrinsic, 6 per cent of the lesions were subglottic, and 15 per cent of the lesions were endolaryngeal.

Forty-four per cent of the 40 patients that had intrinsic lesions were alive without recurrence at least one year or longer after therapy. Twenty-three per cent of the 59 patients that had extrinsic lesions were alive without recurrence at least one year or longor after therapy. Thirty-five per cent of the 8 patients that had subglottic lesions were alive without recurrence at least one year after therapy. Forty-one per cent of the 19 patients that had endolaryngeal lesions were alive without recurrence at least one year after therapy.

Twenty-seven per cent of patients with metastasis were alive without recurrence at least one year or longer after treatment. Fifty-nine per cent of the patients without metastasis were alive without recurrence at least one year or longer after treatment.

Fifteen per cent of patients treated with irradiation only were alive without recurrence at least one year or longer after therapy. Eighty per cent of the patients treated with laryngectomies only were alive without recurrence at least one year or longer after therapy. Fifty-four per cent of the patients treated with laryngectomies and radical neck dissections were alive without recurrence at least one year or longer after therapy. Forty-eight per cent of the patients treated with laryngectomies, radical neck dissections, and external irradiation were alive without recurrence at least one year or longer after therapy.

Forty per cent of all patients treated and followed were alive without recurrence at least one year or longer after therapy.

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Electrophoretic studies now available to Oklahoma doctors can provide clinically useful information, especially in patients with liver diseases, myeloma, persistent or repeated infections, and sickle-cell anemia.

PROTEIN ELECTROPHORESIS

An Aid to Clinical Diagnosis*

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THE ANALYSES of blood protein components have been of intense interest to clinicians for many years; however, until the past decade little information regarding specific fractions of proteins was available. Since 1950 there has been a tremendous increase in our knowledge of serum protein fractions. This advance was made possible by the work of hundreds of investigators and by the perfection and simplification of electrophoretic equipment and procedures.

One of the most valuable laboratory determinations available today is the electrophoretic pattern obtained by analysis of serum proteins. This fact has been realized by physicians served by our hospital laboratory as evidenced by the requests for more than 1000 electrophoretic patterns during the past two years.

Methods

It is beyond the scope of this writing to include detailed discussions of procedures, mechanisms and calculations utilized. The theory involved in electrophoresis is simple. Individual protein fractions have different electrical charges, and when placed in an electrical field, migrate at different speeds and therefore assume different positions. We have modified the standard procedures[1] to obtain faster, and, therefore, more readily accessible results. To obtain the migration pattern a very small quantity (6 microliters) of serum is placed at the summit of a vertical strip of filter paper, the paper having been previously saturated with barbital buffer (0.05 ionic strength, pH. 8.6). We use 15 MA, instead of 5 MA, current during a five hour, rather than 16 hour, migration period. This current also causes production of heat which increases evaporation of water from the paper strip in the electrophoretic cell. The buffer solution is in contact with the lower ends of the vertical strips of paper and supplies additional moisture as needed during the procedure. Using this faster procedure no objectionable alteration is encountered. The migration of serum proceeds in this manner:

*This paper is from the Department of Pathology, St. Anthony Hospital, Oklahoma City, Oklahoma and was presented before the American College of Physicians Regional Meeting at Sequoyah State Park, October 15, 1960.

1) The albumin fraction moves most rapidly toward the anode leaving a portion of this fraction adsorbed to the paper as a trailing "tail";[2]

2) the next fastest fraction, alpha-1 globulin, is in close apposition the albumin fraction;

3) alpha-2 globulin migrates with approximately one-half the speed of albumin and therefore assumes a position near the middle of the protein distribution on the strip of filter paper;

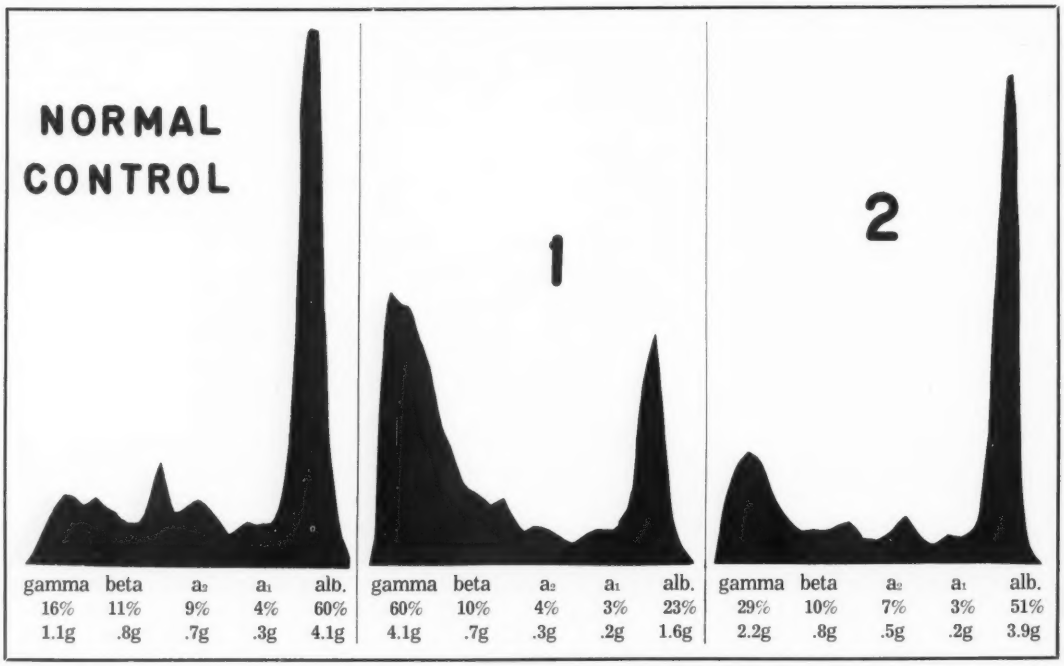
4) beta globulin migrates slowly and moves only slightly toward the anode from the point of application;

5) gamma globulin migrates much differently in this polarized solution, assuming a position toward the cathode from the point of application.

For simplicity, it can be stated that using this method the electrophoretic separation of normal serum reveals albumin to be approximately 60% of the total protein, alpha-1 globulin 4%, alpha-2 globulin 8%, beta globulin 12%, and gamma globulin 16%.

After the migration of the proteins is completed, the filter strips are dried in a preheated oven at 120° C for 30 minutes. This drying denatures and fixes the protein to the paper strips. Next, the protein strips are stained with bromphenol blue. The stained strip is fed through a photoelectric densitometer (Spinco-Analytrol®) where the protein pattern is drawn corresponding to the density of the dye-protein on the paper strip.

In our laboratory the pattern of protein distribution is drawn on one-half of the chart sheet and a control pattern is drawn on the other half for comparison. We use pooled human sera (Versatol®) as the control. Percentages obtained by this analysis and a chemically determined total protein value are used to calculate the "absolute"



	gamma	beta	a_2	a_1	alb.
NORMAL CONTROL	16%	11%	9%	4%	60%
	1.1g	.8g	.7g	.3g	4.1g
1	60%	10%	4%	3%	23%
	4.1g	.7g	.3g	.2g	1.6g
2	29%	10%	7%	3%	51%
	2.2g	.8g	.5g	.2g	3.9g

NORMAL CONTROL PATTERN—Obtained by Electrophoretic Separation of serum proteins of pooled adult human sera.

Figure 1. CIRRHOSIS—A marked decrease in albumin and marked increase in gamma globulin is noted in cirrhosis. Alpha and beta globulins show little change. This 51 year-old white male had ascites and history of malnutrition and alcoholism.

Figure 2. INFECTIOUS HEPATITIS—The albumin fraction reveals slight to moderate decrease and gamma globulin shows slight to moderate increase during hepatitis. Alpha-2 globulin may be slightly increased. All changes in proteins are related to the intensity and duration of the disease. This 6 year old white female had a serum transaminase (SGOT) of 6,200 units.

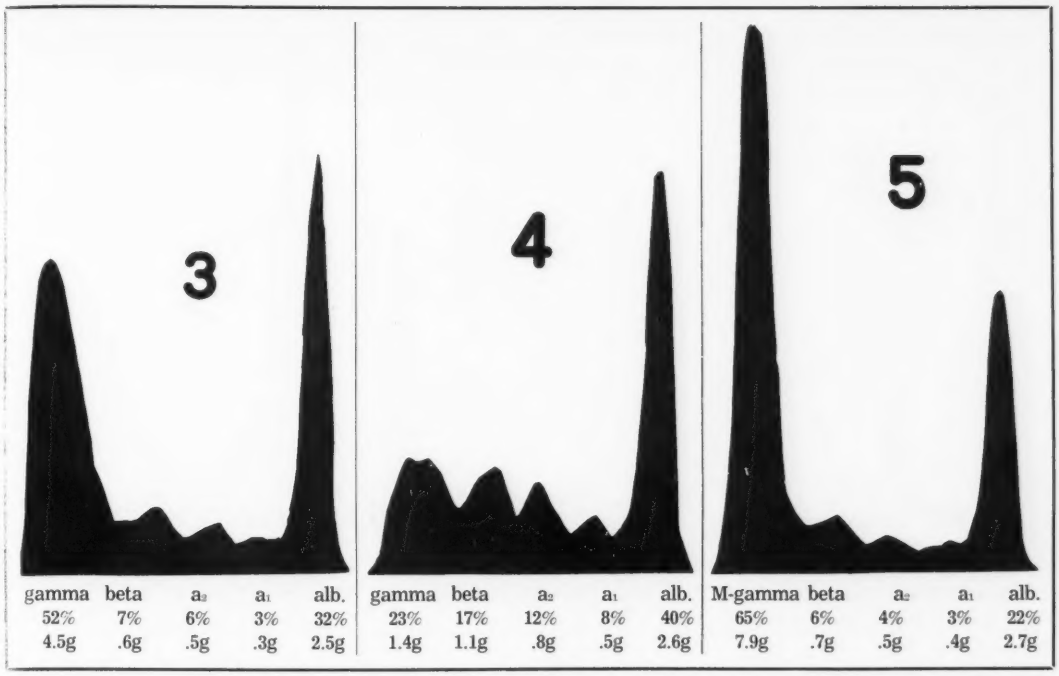

3
4
5
gamma beta a2 a1 alb.
52% 7% 6% 3% 32%
4.5g .6g .5g .3g 2.5g
gamma beta a2 a1 alb.
23% 17% 12% 8% 40%
1.4g 1.1g .8g .5g 2.6g
M-gamma beta a2 a1 alb.
65% 6% 4% 3% 22%
7.9g .7g .5g .4g 2.7g

Figure 3. LUPOID HEPATITIS—This unusual pattern of marked increased gamma globulin with only moderately decreased albumin was associated with consistently positive L-E preparations. A liver biopsy revealed only early cirrhosis. During a period of cortisone therapy, this patient's protein distribution was near normal, but reverted to this pattern when cortisone was discontinued.

Figure 4. SARCOIDOSIS—Albumin is moderately decreased and there are "step-like" increases in globulins in the serum of this 42 year old colored woman. A liver biopsy revealed diffuse granulomatous lesions without necrosis.

Figure 5. MULTIPLE MYELOMA—The abnormal protein (M-protein) in gamma position seen in this 50 year-old white male patient's serum is typical of myeloma protein. This tall peak with a narrow base accounts for 7.9 gm. protein/100 ml. serum. A biopsy specimen of tumor from a fractured rib was typical of myeloma. There is a moderate decrease in albumin.

values in grams per 100 ml. A comparison of "absolute" values (grams per cent) is definitely preferable to the use of percentages. (See normal control pattern).

Clinical Application

Certain information is indispensable in the interpretation of a patient's serum protein including: 1) Knowledge of the normal range of absolute values, 2) expected variations in the configuration of the pattern, 3) an understanding of pathophysiology involved in various diseases, and 4) a clinical history. The age of the patient, especially in infants[4] and elderly patients, must be known. Pregnancy causes marked variation from "normal" with decrease in albumin and increase in globulin values[4]. Recent illnesses often manifest slight changes in protein distribution.

Characteristic serum protein changes have been associated with many illnesses; however, few diseases cause pathognomonic or definitely diagnostic changes. Serum from patients with diseases affecting the liver, the reticulo-endothelial tissues, or the kidneys most often produce clinically significant patterns.

In chronic diseases of the liver there is frequently seen a pattern which has marked decrease in albumin and moderate to marked increase in gamma globulin. These changes are noted in cirrhosis, fatty metamorphosis, or tumor replacement of liver; and these diseases seldom produce prominent changes in other protein fractions (figure 1). On the other hand, in patients with acute infectious hepatitis we usually see only slight decrease in albumin accompanied by moderate

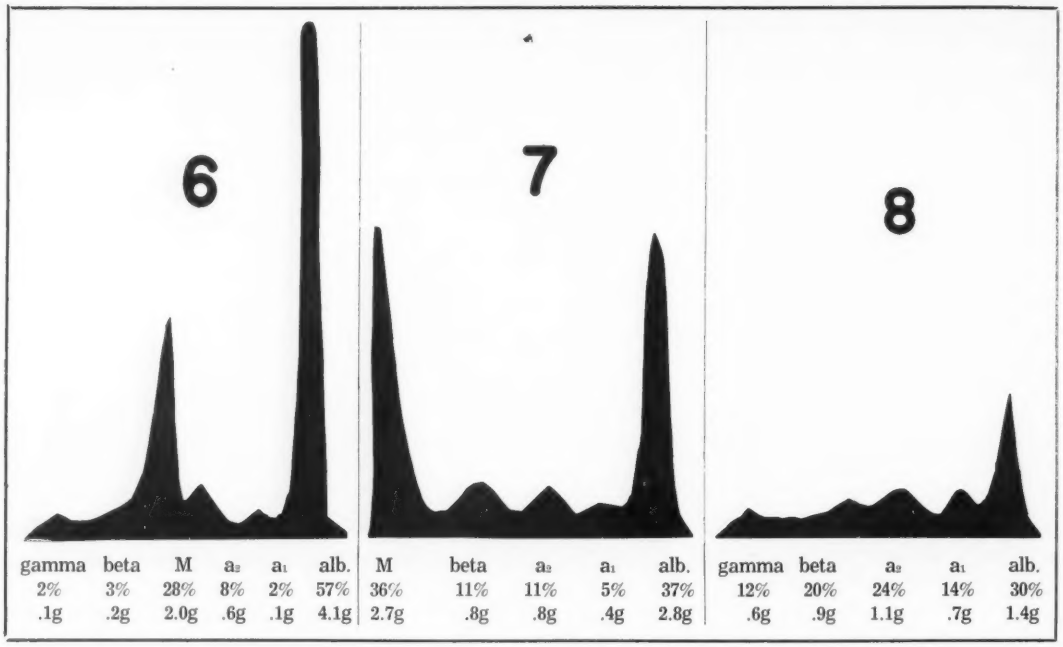


Figure 6. MULTIPLE MYELOMA—Beta position is assumed by M-protein in 10% of cases. The marked hypogammaglobulinemia seen in many myeloma patients is present in this 58 year-old white female.

Figure 7. MULTIPLE MYELOMA—This 55 year-old white female patient's serum demonstrates M-protein in gamma position. Eighty per cent of M-proteins migrate to this position. Total protein in this serum was normal and albumin slightly decreased.

Figure 8. LEUKEMIA—Marked decrease in albumin is noted in many advanced malignancies, especially when liver tissue is replaced. Hypogammaglobulinemia as seen in this patient is often present in patients with acute or chronic lymphocytic leukemia, lymphosarcoma, myeloma and neuroblastoma. This woman had poor resistance to infections.

increase in alpha-2 and gamma globulin (figure 2). One of the most interesting serums we have studied was that of a patient subsequently regarded as having "Lupoid hepatitis."[5] In this patient there was both a moderate decrease in albumin and a marked increase in gamma globulin (figure 3). This patient had consistently positive L-E preparations. When the patient was placed on cortisone therapy, the protein pattern reverted toward normal. Later, when cortisone therapy was discontinued, the protein pattern returned to that originally noted. A liver biopsy showed only early changes of cirrhosis.

These protein changes in patients with liver disease apparently reflect: 1) decreased ability of the liver to manufacture albumin, alpha-1 globulin, alpha-2 globulin, and beta globulin with albumin being more profoundly affected; 2) response of the reticulo-endothelial tissues to compensate for decreased albumin by production of additional globulins; and 3) increased antibody production by the reticulo-endothelial tissues in some diseases, such as infectious hepatitis.

Serum protein changes in association with gallbladder disease[6] are not impressive. Slight decrease in albumin and non-specific increase in alpha globulins have been noted with many infectious diseases, including cholecystitis.

In diseases of reticulo-endothelial tissues prominent change in the protein fractions is often pronounced. Almost pathognomonic is the superimposed paraproteins (M-proteins) seen in patients with multiple myeloma (figure 5, 6, and 7). These M-protein fractions can be seen overlaying alpha, beta, or gamma globulin and cause a prominent peak in the pattern due to an abnormal homogenous band of paraprotein on the paper strip. An alteration often overlooked

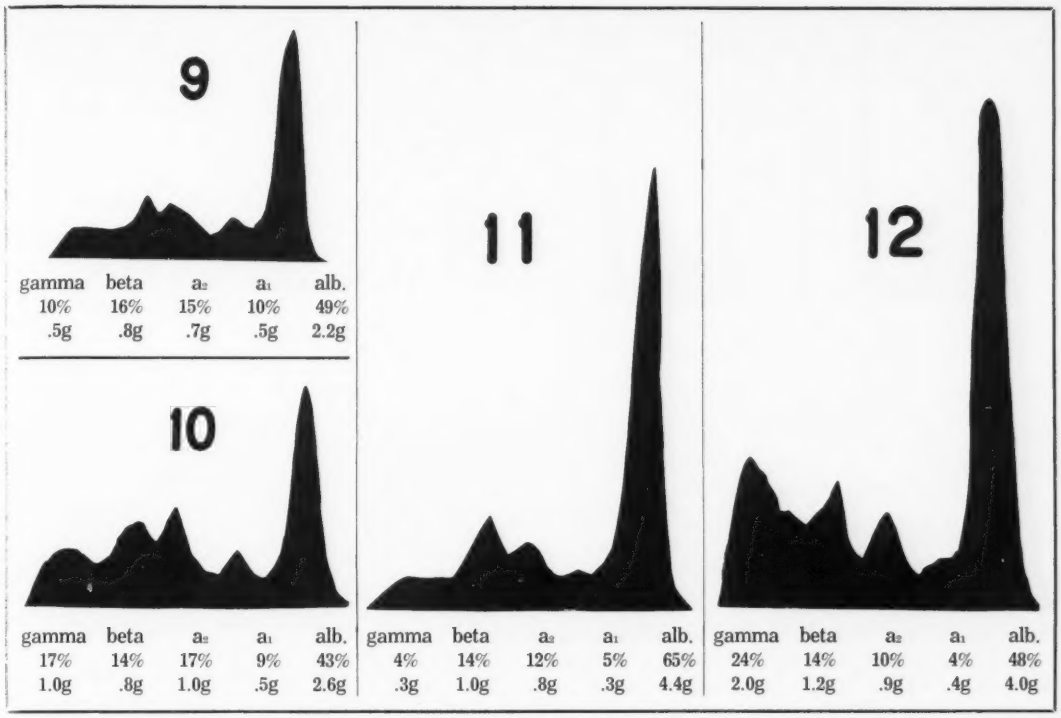


Figure 9. NEPHROTIC SYNDROME—Albumin and gamma globulin are very low in patients with nephrotic syndrome. These patients almost invariably also show increase in absolute values of alpha-1 globulin as is noted in this edematous 9 year-old white female.

Figure 10. BURNS—Protein loss in burn patients is reflected by low total protein and marked decrease in albumin. Gamma globulin is usually normal or slightly elevated. Increased alpha-2 globulin as noted in this 43 year-old white female, may reflect antibody response to secondary infections.

Figure 11. PRIMARY HYPOGAMMAGLOBULINEMIA—is diagnosed when children with repeated or persistent infections have absolute values of gammaglobulin 30% or more below normal values for their ages. This patient was a 6 months old white male.

Figure 12. REPEATED AND PERSISTENT INFECTIONS—This 9 year-old white male has experienced numerous infections throughout his life. He has cystic fibrosis of pancreas. Increase in all globulin fractions suggests he has normal antibody production.

is the moderate decrease in gamma globulin commonly present in these patients (figure 6). This oversight is due largely to the fact that the paraprotein of multiple myeloma in most instances occurs at the gamma globulin position, and therefore precludes the usual examination of gamma globulin. Also, the paraprotein of multiple myeloma is very peculiar in that it stains not only for protein but also for carbohydrates,[7,8] lipids[5] and nucleic acid.[9] Another interesting problem posed by some patients with multiple myeloma is that the serum and/or the urine may not show the abnormal protein fractions.

Macrogammaglobulinemia of Waldenstrom may cause a peak in the gamma globulin fraction identical to the M-protein noted in myeloma patients. Patients in which studies by ultracentrifugation have verified the existence of macroglobulins have often later been proved to have a variety of diseases including myeloma, lymphosarcoma and chronic lymphocytic leukemia.[5]

In lymphosarcoma and acute or chronic lymphocytic leukemia some patients show a moderate to marked decrease in gamma globulin (figure 8). This deficiency suggests a possible reason for the infections that are commonly seen in these patients and administration of gamma globulin has proved beneficial. Patients with monocytic or myelocytic leukemia, on the other hand, fail to show this decrease in gamma globulin

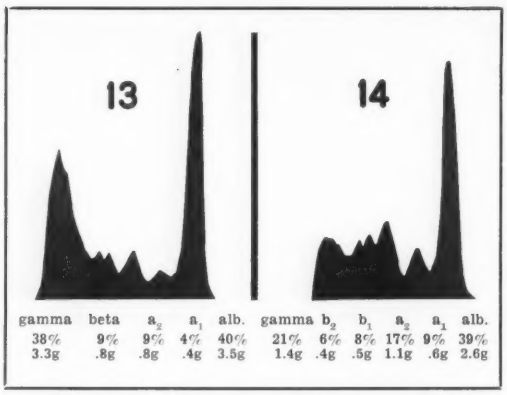


Figure 13. RHEUMATOID ARTHRITIS—A marked increase in gamma globulin with slight increase of alpha globulins is noted in rheumatoid patients' serum. This 71 year-old white female has severe deformities of hands and wrists. Her latex fixation is positive 1:5120 dilutions.

Figure 14. MALIGNANCY—STRESS—Many illnesses cause moderate decrease in albumin and slight increase in globulin fractions. This elderly male with inoperable carcinoma of lung exhibits non-specific increase in alpha-2 globulin and splitting of the beta globulin fraction.

and actually show an increase in many instances, Hodgkins disease may cause a marked increase in alpha-2 globulin, especially during periods of increased activity of the disease.

Collagen diseases most often produce non-specific changes[10] including increases in a heterogenous group of proteins at the gamma position. Patients with rheumatoid arthritis may show prominent increase in both gamma globulin and alpha-1 globulin (figure 13). Generalized decrease in absolute values of all fractions excepting gamma globulin have been observed in patients with scleroderma and dermatomyositis.[11]

Although the changes are not of definite diagnostic significance, we have noted the "step-like" increased globulins in Boeck's sarcoid, as described by Sunderman[11] (figure 4).

Renal disease and extensive body burns may cause marked loss of albumin. In most instances there is an associated increase in alpha-2 globulin. Most kidney diseases also cause a moderate to marked decrease in gamma globulin (figure 9). In patients with the nephrotic syndrome proteinuria may be extensive and cause very low values for all fractions. The gamma globulin fraction in patients with burns is normal or slightly elevated (figure 10). If the serum is selectively prestained with Sudan black B[12] one sees an increase in the amount of lipoprotein at the beta position in patients with renal disease. This is directly opposed to the decreased beta lipoprotein seen in patients with liver disease, and therefore may serve as a differential point.[5]

Two very interesting diseases have been uncovered as a result of serum protein electrophoretic studies. One of these is the virtual absence of albumin, called "analbuminemia." One such patient has been reported from the University of Oklahoma Medical Center, and is one of the few cases reported in the literature.[13] Subsequent investigation of this patient using radioactive sulphur (S-35)) tagged methionine has shown that the patient produces only one five-hundredth of the normal amount of albumin.[14] The other disease uncovered by electrophoretic studies is agammaglobulinemia.[15] These patients together with patients showing a marked hypogammaglobulin fraction[16] have lowered resistance to infections (figure 11). After the administration of gamma globulin, they show marked improvement even though they continue to show a low gamma globulin fraction during treatment. It should be pointed out that in order to interpret the gamma globulin fractions of infants and small children a comparison with normal values for the specific age is necessary.[4] A decrease of more than 30% below the average for the given age is considered indicative of hypogammaglobulinemia.[5]

In direct contrast to patients with hypogammaglobulinemia are patients with repeated persistent infections such as seen in those with fibrocystic disease of the pancreas (figure 12). In this latter group there is a moderate rise in globulins, especially the gamma globulin fraction, as would be expected with normal antibody response.

Wall[5] has referred to the non-specific changes seen in many illnesses as the "stress pattern." Frequently these changes consist of slight decrease in albumin, together with increase in alpha-1, alpha-2 and gamma

globulin. Beta globulin is often split and shows a slight decrease.

Electrophoretic protein patterns of patients with advanced carcinoma frequently show prominent increase in alpha-2 and/or beta globulins.[17] Here again, the beta globulin is often split into two fractions (figure 14). Recent studies using potato starch gel electrophoresis reveal that atypical haptoglobin[18,19] fractions are present in this portion of the protein pattern.

Special stains for lipoprotein have shown the presence of abnormal lipoprotein distributions in patients with advanced atherosclerosis.[20,21] It is now possible to identify lipoprotein corresponding to each protein fraction, and further investigation of these components is needed to clarify their significance in clinical medicine.

Protein electrophoretic studies of hemoglobin have shown distinctly separable hemoglobins in patients with sickle cell anemia, sickle-C disease,[22] sickle-D disease,[23] sickle-E disease[24] and sickle trait. A total of 12 separate types of hemoglobin are now recognizable using electrophoretic and chemical tests.

There are many facets of interest in the research of these protein fractions. We have been particularly interested in seeing additional selective stains developed for the differential identification of proteins and paraproteins. Perhaps when such differential stains are available, we can identify particular antibody groups within the globulins, and also possibly identify abnormal proteins elaborated by tumors. At present no such differential stains are available for practical clinical application.

Summary

The value of protein electrophoresis in clinical medicine is discussed and examples of non-specific as well as diagnostic protein alterations are cited. Electrophoretic patterns may be particularly helpful in diseases involving hepatic, renal or reticuloendothelial tissues and in children with persistent or repeated infections.

A modification of standard procedure for migration of serum protein is given. This faster method provides more accessible results for the clinician.

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Maternal Mortality Study Committee

A Report of Two Cases

THE FOLLOWING CASES were selected by the committee for publication in the Journal on the basis of their educational value. Permission of the attendants for the publication has been obtained through the State Department of Health. For obvious reasons, complete anonymity will be maintained. The comments which follow the case histories represent the opinion of the committee and do not necessarily reflect the attitude of the Editors.

Case No. 290

The very complete report submitted by the attending physician is reproduced here without change or additions.

"The patient was first seen on March 31, 1959, complaining of amenorrhea since the ninth of February, 1959. The patient had two children living and well and had had one abortion without complication. The last pregnancy had been delivered by Cesarean section because of placenta praevia. Examination on March 31, 1959 revealed a normal young white female appearing neither acutely nor chronically ill. The entire physical examination was not remarkable. There was a healed lower midline abdominal scar without hernia. Pelvic examination revealed an early pregnant uterus; the adnexa were not remarkable. Due to the presence of some nausea, the patient was started on Bucladin, twice a day, which gave immediate and good relief. Her initial blood pressure was 110/70 and remained so throughout the entire pregnancy. Initial uranalysis revealed no abnormality and remained so throughout the entire pregancy. X-ray film of the chest on March 31, 1959 revealed a normal chest. Hematocrit on that date was 40%; RH positive, Type O; STS negative.

"The patient was followed at routine regular intervals throughout her entire pregnancy and was admitted to the hospital on November 5, 1959 for elective Cesarean section on November 6, 1959. Her expected date of confinement was November 16, 1959. At the time of admission, MacDonald's measurement was 30 cm., fetus was in LOT position, and fetal heart tones were normal. The patient's blood pressure was 100/60 on admission, uranalysis normal, hemoglobin 13 gms.

"On the morning of November 6, 1959, the patient was taken to the operating room at 8 a.m., having received Sodium Amytal at 6 a.m., .2 gm. and Phenergan 50 mg., Demerol 50 mg. and Atropine 0.4 mg. at 7 a.m. Spinal anesthesia was instituted at L-4 level, using 100 mg. of Procaine, 5 mg. of Pontocaine. Blood pressure remained stable following spinal anesthetic; good anesthesia was obtained (until closure of the abdomen when supplemental Sodium Pentothal was administered). After routine preparation and draping, the patient's abdomen was opened by excising the scar of previous operation. Exploration revealed that the uterus had

been previously opened by a classical section; this was not disturbed, and there were no adhesions. The lower uterine segment was exposed, the bladder flap dissected free from the lower segment, and the uterus incised transversely, and a viable infant was delivered from the uterus. The uterus contracted immediately and was closed in routine fashion. The abdomen was closed in routine fashion. The patient was returned to the Recovery Room in good condition. Throughout her operation, the blood pressure remained stable, in the neighborhood of 100/60. It was the same in the Recovery Room where she remained for approximately 45 minutes. Following this, she was returned to the Ward. Around 10:30 a.m. she sat straight up in bed and complained of being short of breath. She lay down and expired. Attempts at resuscitation made with oxygen and intracardiac caffeine were of no avail.

"Later that afternoon an autopsy was done. On opening the abdomen, it was found that the abdomen was filled with old and fresh blood, the amount 2500 to 3000 cc. A careful examination revealed the source of this blood to be a ruptured varicosity of the left broad ligament high and posterior on the left side of the uterus. The incision was intact and dry. There were no blood vessels in or around the incision which had leaked. The remainder of the autopsy was noncontributory. The report of the Pathologist was that death was due to exsanguinating hemorrhage from a large, ruptured varicose vein of the left broad ligament.

"A study of the literature revealed that in 1950 an article appeared in the American Journal of Obstetrics and Gynecology on Page 1112, reporting a number of similar cases from a hospital in Detroit, Michigan. The Committee is referred to this article for further elucidation of this most unusual and rare case. It is the opinion of the reporting and attending physician that had he been standing beside the patient at the time of her crisis, with adequate blood supply at hand, he would have been unable to administer enough blood to carry her until a hysterectomy could be done. The varicosity was at least 2 cm. in diameter, and the hemorrhage must have been complete and exsanguinating at its onset."

Summary of Comments by the Special Committee

The great importance of an adequately performed autopsy is well illustrated by the case under discussion and it is hoped that the review of this unfortunate death will stimulate all of us to make greater efforts to obtain permission for autopsies when and if the occasion demands.

The Committee reviewed the publication noted by the reporting physician and strongly recommends a like study by those interested in obstetrics or engaged in its practice. Severe hemorrhage from utero-ovarian veins associated with pregnancy is apparently and fortunately a very rare complication. A review of the cases reported seems to indicate that hemorrhage from this source may occur prior to labor with some cases as early as ten weeks gestation, during labor and during the puerperium as late as several weeks after delivery. Increased pressure in the dilated or "varicose" veins of the pelvis secondary to increased intra-abdominal pressure following some muscular activity seemed to be the precipitating factor in some cases. In many other cases there seemed to be no known precipitating factor of possible source of trauma. The bleeding is intraperitoneal, retroperitoneal or both, depending upon the point of rupture of the vein and, of course, secondary rupture of the hematoma into the peritoneal cavity from retroperitoneal spaces. Occasionally a mass may be palpable through the abdominal wall. Symptoms of this complication are almost entirely limited to sudden abdominal pain and shock. If rupture of the vein occurs during labor, it is easy to realize how difficult differential diagnosis would be and for this reason the mortality in the cases of this type reported was higher than in those occurring before or after labor. The mortality rate for the whole group of cases reported in the literature was 50%. Labor associated with the accident increased the mortality to 76%.

Treatment, of course, consists of rapid replacement of blood loss and arrest of further bleeding. In the cases reported, Cesarean section was done in most instances of bleed-

ing prior to labor or delivery to facilitate adequate exposure to search for the source of bleeding. Ligation of the veins was done with success when the precise bleeding points could be determined and hysterectomy was the procedure of choice when points of rupture could not be grossly identified.

The Committee agrees with the cause of death as given on the death certificate and considers this death as not avoidable.

Case No. 287

The protocol in this case submitted by the reporting physician is complete and very well prepared, and is reproduced in original form here:

"The patient was a 22-year old Gravida I, Para I, Ab-o, Indian female who was first seen at the hospital on 4-12-59 in O.B. Clinic. On that date she stated her LMP was in August, 1958, and her EDC was considered to be May, 1959. She had had no complications of pregnancy prior to this time by history, but had not been under the care of a doctor. On general examination she was normotensive, and the P. E. was normal except for an enlarged uterus with fundus 18 cm. above pubis. Her total weight gain was 15 lbs. Hgb—11 gms., Hct. 36%, blood type O positive, VDRL Qual. negative. Her only complaint was frequent headaches. She was to return at weekly intervals to clinic, but was not again seen until 5-6-59 at which time blood pressure was 144/90, proteinuria 1+, pedal pitting edema 1+, and total weight gain of 23 lbs. with 8-lb. weight gain from 4-13-59 to 5-6-59. Patient was placed on Diamox 250 mgm every a.m., Phenobarbital ¼ grain q.i.d., and instructed on a 1500 cal. low salt diet. On 5-19-59 the blood pressure was 150/104, no proteinuria or pedal edema, and patient had lost 2 lbs. She was asymptomatic but due to persistent hypertension was placed on Apresoline 0.25 mgm daily and Serpasil 0.1 mgm daily. She was not seen again until 6-2-59 when she was noted to have lost another 1 lb. with total weight gain was 20 lbs., but blood pressure was 158/108 and trace proteinuria was present. Because of hypertension, patient was admitted to hospital on 6-2-59. Physical examination was not remarkable. Height of fundus was 27 cm and FHT were 144/min. Hgb 10.5 gm. Hct 35%, WBC 5850 with 70% neutrophils and 30% lymphs. FBS 63 mgm%, Bun 10% mgm. Chest film normal. Films of pelvis revealed evidence of full term pregnancy. Despite bed rest and drug therapy, hypertension and proteinuria persisted and since patient was considered to be full term, it was felt that induction of labor was indicated.

"On 6-4-59 following artificial rupture of membranes, patient received an oxytocin (Syntocinon) drip for approximately 1½ hours after which she continued in labor on her own. Demerol, Phenergan and Atropine were given during the 1st stage of labor. After 4 hours and 50 minutes of labor the patient delivered a live, normal infant by low forceps delivery (forceps on 3 minutes) under Saddle block anesthesia without complications. Placenta delivered spontaneously and intact 4 minutes following delivery following which Methergin 0.2 mgm I.M. was given. A LML episiotomy had been done and was repaired without other lacerations. Postpartum bleeding was average. On the 2nd and 3rd postpartum days the patient had a low grade fever of 101 and 100.8 degrees respectively and thereafter remained afebrile until her discharge on 6-9-59. She continued to have persistent proteinuria of 2 to 3 plus but her blood pressure gradually returned to normal and was 138/60 at the time of discharge.

"One day after discharge on 6-10-59 the patient noted onset of persistent headache, malaise and lethargy and by 6-11-59 had become uncommunicative and confused, these symptoms gradually increasing so that she was seen and admitted to the hospital on 6-12-59 at 10 P.M. on the Medicine Service. Physical examination revealed temperature 99 degrees, blood pressure 160/90, pulse 79. Patient was disoriented and lethargic. Eyes, ears, nose and throat were not remarkable with flundoscopic examination completely normal. Marked nuchal rigidity was present with positive Brudzinski. Neurological examination was normal except for positive right Babinski. Uterus was palpable 6 cm. above pubis and patient had a foul smelling reddish-orange vaginal discharge. Remainder of the examination was normal. Hbg 8 gms, Hct 26%, WBC 15,680 with 86%

neutrophils, 10% lymphs and 4% monos. UA revealed 4 plus proteinuria and 15-20 WBC's. Lumbar puncture revealed opening pressure of 140 mm with protein 150 mgm%, sugar 50 mgm% and cell count of 909 polys, 72 lymphs and 36 fresh RBC's. No organisms were seen on smear. The initial impression was meningitis and after CSF, urine, vaginal, throat and blood cultures were obtained, the patient was started on antibiotic therapy of intravenous aqueous penicillin 30,000,000 units per 24 hours and Chloromycetin 4 gms per 24 hours, and oral Gantrisin 3 gms. initially and 4 grams per 24 hours. On 6-13-59 neurosurgical and neurologic consultation were obtained with findings by this time of right hemiparesis and aphasia. The fundi remained normal. It was felt that the patient had meningitis with possible cerebritis localized in the left temporofrontoparietal area and also other possibilities were an abscess in this same area as well as a thrombosis as a complication of the infection. No neurosurgical procedure was recommended but rather continued antibiotic therapy and observation for increased intracranial pressure. All cultures obtained were negative and BUN was normal. By 6-14-59 pt. seemed improved, i.e. was able to move right leg and arm and was more alert and responsive. She showed no signs of increased intracranial pressure and continued to improve until the a.m. of 6-16-59 when she became hypertensive with B.P. 180/130 and less responsive, the pupils were dilated and not reactive, fundi normal, diffuse rhonchi were present throughout the lung fields and neurological exam was unchanged. Chest film was essentially normal with suggestion of pneumonitis in left lower lung and ECG was read as supraventricular tachycardia. Hgb 11.5 gm, Hct 35%, WBC 8750 with 78% neutrophils, 16% lymphs, 6% monos. She remained afebrile but gradually became comatose finally becoming hypotensive. An emergency tracheotomy was performed but pt. expired at 4:10 A.M. on 6-16-59, four days after her 2nd admission to the hospital and 12 days postpartum.

"An autopsy was permitted with the following results: Thrombosis, acute, left sigmoid and sagittal sinuses and meningeal veins and left occipital region; Liquefaction necrosis, extensive, left occipital lobe; Pulmonary embolism, recent, multiple, with focal areas of hemorrhagic infarction; Cor pulmonale, acute, slight; Lungs, congestion, edema, atelectasis, slight; Septic splenitis, minimal; Congestion of viscera; Fatty metamorphosis of liver; Hypoxic nephrosis; Lipid depletion, minimal; Clinical diagnosis postpartum, 12 days.

"Past history of patient revealed that she had had no operations, injuries or serious adult illnesses. Family history was significant in that both her mother and brother had tuberculosis but patient stated that her chest films were normal."

Summary of Comments by the Special Committee

The Committee would first like to commend the reporting physician for a complete and carefully prepared report on this most unusual obstetrical complication, and especially for the effort expended in obtaining the very informative autopsy. Without the latter, many doubts would still exist regarding diagnosis in this patient's final illness.

Thrombosis of the cerebral sinuses and veins associated with the puerperium has been noted occasionally for many years, and it is considered to be a very rare obstetrical complication. Case reports concerning this complication have been published chiefly in the British literature. Several reports in the American literature were published in 1950 and 1951 to which reference is made in these comments.

The case here reported is fairly typical except for the complicating pre-eclampsia, as noted in the protocol, which added some confusion in diagnosis. Convulsions did not occur in this patient, nor was papilledema noted.

In discussing further this rare complication, the Committee felt that a reproduction of the comments of an article published by Burt, Donnelly, and Whitener in the American Journal of Obstetrics and Gynecology, September, 1951, would best convey present opinion upon this subject. For those who might like to pursue the subject more completely, references are added at the conclusion of this discussion.

"Occasional reports of cerebral venous thrombosis during the puerperium have appeared in the literature for more than a century (for review see refs. 1, 2). During the past fifteen years the clinical and pathological features of this condition have been re-emphasized in a number of reports[2,7] and the pertinent literature has been recently summarized by Hyland.[8] In spite of the fact that this complication has been recognized by physicians for many years, the total number of cases reported remains small, and its actual incidence is difficult to assess. Most authors, however, regard it as a most uncommon puerperal accident.

"Briefly the typical case may be characterized as follows: After a normal prenatal course, uncomplicated delivery, and apparently normal early postpartum period, weakness or paralysis rather suddenly develops, frequently in association with convulsive seizures which may be Jacksonian in type. The time of onset is usually within the first three weeks postpartum, although longer intervals have been recorded.[5,7] Headache and confusion may precede the occurrence of frank neurological signs. As might be expected, the neurological manifestations are quite variable and are dependent upon the location, extent, and degree of brain damage, although Martin and Sheehan[5] have commented on the almost universal occurrence of convulsions even without involvement of the motor cortex. The paralysis may manifest itself as an mono- or hemiplegia and contralateral limb involvement has been reported.[2,8] Aphasia and peripheral sensory disturbances are common. The cerebrospinal fluid pressure is typically increased with involvement of the superior sagittal sinus in which case papilledema is usually demonstrable. With significant meningeal or cortical bleeding, the spinal fluid will show the presence of erythrocytes, but is chemically unremarkable except for small increments in protein concentration in some cases.[2,4,5,7,8] Although adequate statistics are unavailable, the mortality has been estimated from 30 to 56 per cent.[2,7]

"A number of authors[2,4,5,7,8] have indicated that the clinical features of this condition are sufficiently unique to permit diagnosis during life, and in a small number of cases in which recovery occurred the diagnosis has been confirmed by exploration[5] or autopsy[5,8] following death by other causes. Many cases undoubtedly pursue a benign course as may become apparent with increased clinical recognition and diagnosis.

"The specific obstetrical problem is one of differentiating these cases from late eclampsia. Martin and Sheehan's[5] Case 2 in which coexistent hypertension and albuminuria were present, but with cerebral venous thrombosis demonstrated at necropsy, is representative of the problem in diagnosis that may be encountered in the early puerperium. The similar symptomatology of these two conditions increases the difficulty in reaching a decision. However, when the onset of symptoms occurs later than four days postpartum, eclampsia probably need not be given serious consideration. Hypertension with edema and/or albuminuria antecedent to the development of neurological symptoms is obviously of great differential diagnostic value in the immediate postpartum period.

"The possibility of space-occupying intracranial lesions, epilepsy, or meningeal infection must be included in the differential diagnosis. The case history, together with clinical laboratory findings, should resolve the diagnosis in most instances. Arterial thrombosis is generally more abrupt in onset, and recovery less complete than with venous thrombosis, although neurological residue may persist following the latter.[5] Arterial embolism is unlikely in the absence of organic heart disease and its occurrence otherwise requires an opening between the right and left sides of the heart such as a patent foramen ovale.

The etiology of cerebral venous thrombosis in the puerperium remains obscure. It is considered as "primary" in distinction to thrombosis occurring with extension of infectious processes about the skull. Of interest is the fact that concomitant thrombosis is frequently found elsewhere in the body.[5,8] Martin,[6] on the basis of Batson's[9] studies has suggested that the intracranial process is initiated by venous emboli derived from the pelvic veins and reaching the ce-

rebral circulation through the vertebral venous plexus. Such a mechanism is considered unlikely by Kendall,[2] who believes the thrombosis to result from changes in the blood of puerperal patients that facilitate clot formation together with local damage to the cerebral vessels presumably occurring in labor. Although these opinions are of considerable theoretical interest, it would appear that a final decision in regard to etiology must await further experimental and clinical data.

"Treatment has been critically evaluated by Hyland,[8] with whom we are in agreement in urging caution in the use of anticoagulant therapy on the basis that increase in cerebral bleeding at the site of thrombosis as well as uterine hemorrhage may result. Barbiturate medication is satisfactory for control of convulsive seizures, but morphine is contraindicated because of its depressant effect on the vital centers, particularly with increasing intracranial pressure. In the latter circumstance, with sagittal sinus involvement, dehydration procedures may be tried (concentrated serum albumin, hypertonic glucose) but repeated lumbar punctures[2] and careful withdrawal of cerebrospinal fluid is a more certain technique for the reduction of intracranial pressure.

"Supportive therapy including attention to fluid, electrolytes, and nutritive needs with good nursing care and the institution of physiotherapy as early as practicable need no comment."

The Committee considered this death as not avoidable and agrees with the causes of death as given on the death certificate.

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MEDICS IN DEFENSE

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Influenza Immunization

LEROY E. BURNEY, Surgeon General
Public Health Service

TWO OUTBREAKS of influenza swept the United States in the fall of 1957 and the winter of 1958, resulting in 60,000 more deaths than would be expected under normal conditions. There were, in addition, more than 26,000 excess deaths during the first 3 months of 1960 which also were considered to be the result of influenza.

These departures from the usually predictable norms prompted the Surgeon General's Advisory Committee on Influenza Research to analyze the cause and to seek measures to prevent such an occurrence in the future.

The committee found that a new antigenic variant, the Asian strain, because of its wide-spread introduction and the general lack of resistance to it, was the direct cause of the excess number of deaths, not only in the total population but most markedly among the chronically ill, the aged, and pregnant women. As a result of these findings, the Public Health Service is urging a continuing program to protect these high-risk groups in order to prevent a recurrence of this excess mortality.

The high-risk groups who contribute most to the excess deaths and who the Public Health Service believes should be routinely immunized each year are:

1. Persons of all ages who suffer from chronic debilitating disease, in particular: (*a*) rheumatic heart disease, especially mitral stenosis (*b*) other cardiovascular diseases, such as arteriosclerotic heart disease or hypertension — especially patients with evidence of frank or incipient insufficiency; (*c*) chronic bronchopulmonary disease, for example, chronic asthma, chronic bronchitis, bronchiectasis, pulmonary fibrosis, pulmonary emphysema, or pulmonary tuberculosis; (*d*) diabetes mellitus; (*e*) Addison's disease.

2. Pregnant women.

3. All persons 65 years or older.

The adult dosage recommended by the advisory committee for initial immunization is 1.0 cc. (500 cca units) of polyvalent vaccine, administered subcutaneously on two occasions separated by two or more months. Preferably, the first dose would be given no later than September 1 and the second no later than November 1. Persons previously immunized with polyvalent vaccine should be reinoculated with a single booster dose of 1.0 cc. subcutaneously each fall, prior to November 1. The only contraindication to vaccination would be a history of food allergy to eggs or chicken or a prior history of allergic reaction to an egg-produced vaccine, such as the commercial influenza product.

The time to start such a program is before the onset of the influenza season this fall. In the past, influenza vaccination has been sparse and sporadic, and primarily in response to an epidemic or the threat of an epidemic. The unpredictability of recurrence of influenza and its continued endemic oc-

currence are well known. Therefore, the Public Health Service strongly recommends that immunization of these high-risk groups be started now and continued annually, regardless of the predicted incidence of influenza for specific years.

The members of the Surgeon General's Advisory Committee on Influenza Research are: Colin M. MacLeod, M.D., chairman, University of Pennsylvania, Fred M. Davenport, M.D., University of Michigan, Morris Schaeffer, M.D., bureau of laboratories of the City of New York Health Department, George Burch, M.D., Tulane University, Dorland J. Davis, M.D., National Institute of Allergy and Infectious Diseases, Public Health Service, Thomas F. Sellers, M.D., Georgia State Department of Health, and Glenn S. Usher, M.D., Communicable Disease Center, Public Health Service.

Influenza Facts*

Introduction

For many years influenza has been recognized as a major recurrent cause of death. This was never more clearly demonstrated than in the catastrophic pandemic of 1918. Within the past three years, epidemic influenza has again been shown to be a major public health menace.

In the fall of 1957 and spring of 1958 an extensive epidemic of influenza occurred in the United States as well as the rest of the world. This was caused by a new antigenic variant of Type A influenza virus, subsequently termed Type A_2 or "Asian" influenza. This epidemic was associated with marked excess mortality particularly among older age groups and among those with associated chronic illness. During the first three months of 1960 another epidemic of Asian influenza occurred in the United States; excess mortality was again particularly evident among the aged and chronically ill. As was brought out at the International Conference on Asian Influenza, National Institutes of Health, February, 1960, analysis of the mortality associated with these epidemics has served to re-emphasize the fact that individuals in age groups 65 years and over, and individuals with certain chronic diseases are at increased risk of death from influenza. Polyvalent, influenza virus vaccine, re-evaluated within the past several years, has been shown to be of definite value in preventing influenza. Annual immunization of persons at high risk of death from influenza has been strongly recommended by the Public Health Service Advisory Committee on Influenza Research as a protective measure for this segment of the population. Presented here are the background, rationale, and recommendations for carrying out routine immunization of these persons.

*Communicable Disease Center, Public Health Service.

Mortality Due to Influenza—1957-1960

The United States has recently experienced three epidemic waves of Asian influenza. The first two waves appeared in the last quarter of 1957 and the first quarter of 1958 as a part of the world-wide pandemic; the third arose abruptly in the early winter months of 1960.

The lethal impact of an influenza epidemic is reflected not only in the excess mortality due to influenza and pneumonia and in the excess of deaths due to cardiovascular or renal disease, but a further reliable measure of an influenza epidemic is the total excess of observed deaths over the normal number of expected deaths during the same period. The calculations presented in the table show mortality in excess of seasonal expectancy after correction for population growth. The number of excess deaths are shown by age, and by selected causes during the three epidemic periods.

Age Group	1957 Oct.-Dec.	1958 Jan.-Mar.	1960 Jan.-Mar.
Under 1	600	200	-3,200*
1-14	1,300	100	100
15-24	1,000	300	200
25-44	3,600	400	2,200
45-64	10,400	5,300	6,100
65 and over	22,400	13,400	21,300
All Ages	39,300	20,000	26,700
Selected Causes			
Pneumonia-Influenza	12,100	6,000	10,600
Cardiovascular-renal	18,700	13,000	12,200
All other causes	8,500	1,000	3,900
Total	39,300	20,000	26,700

*The infant mortality rate in January 1960 was the lowest rate ever recorded for January. Monthly Vital Statistics Report 9(3)2, May 18, 1960.

Table I. Estimated Excess Mortality by Age and Selected Causes, United States, 1957-58 and 1960[1, 14]

It may be seen that a total of almost 60,000 excess deaths was recorded in the six months period October-March 1957-58, with twice the excess mortality in the first as compared to the second wave. The 1960 epidemic contributed an excess of over 26,000 deaths. In each period, the population over 65 accounted for more than half of the number of excess deaths. During the first period, a relatively higher proportion of younger age groups was included in the death toll, but in succeeding epidemics, the older age groups showed increasing proportions. In the most recent epidemic, over three-fourths of the total excess deaths occurred among older persons.

Of the excess deaths, nearly 85 percent were attributed to two categories: pneumonia-influenza (33 percent) and cardiovascular-renal diseases (51 percent). It is apparent that the population at highest risk are older persons, especially those who have suffered cardiovascular illness.

Because of the large number of excess deaths due to these recent outbreaks of influenza, the Public Health Service recommends a continuing effort to reduce this excess through the immunization of patients in selected groups known to have an increased risk of death from influenza.

Task for 1960—Protection for the Aged and Chronically Ill

The Public Health Service Advisory Committee on Influenza Research has recommended that persons of all ages who have chronic cardiovascular, pulmonary, renal, or metabolic diseases, and pregnant women be immunized against influenza as a routine practice, since patients in these categories have experienced the highest mortality rates.

The specific recommendations of the Public Health Service for routine immunization include:

A. Persons at all ages who suffer from chronic debilitating disease; e.g., cardiovascular, pulmonary, renal, or metabolic disorders; in particular—

1. patients with rheumatic heart disease, especially those with mitral stenosis,
2. patients with other cardiovascular disorders, such as arteriosclerotic or hypertensive heart disease; especially those with evidence of frank or incipient cardiac insufficiency.
3. patients with chronic broncho-pulmonary disease; e.g., chronic asthma, chronic bronchitis, bronchiectasis, pulmonary fibrosis, pulmonary emphysema, and pulmonary tuberculosis,
4. persons with diabetes mellitus, and
5. patients with Addison's disease.

B. Pregnant women.

C. All persons 65 years and older.

Influenza may not be more likely to attack persons in these specified groups than others; the occurrence of influenza in these persons, however, is more likely to be a life-threatening event. Influenza alone places a severe stress on cardiovascular and pulmonary function, and the frequency of bacterial complications is greatly increased in patients with chronic cardiovascular-renal and pulmonary disease.

The Vaccine

Description. The commercial influenza vaccine is an aqueous, polyvalent, killed-virus preparation, with a prescribed antigenic composition for 1960 as follows:

Type	Strain	CCA Units per cc.
A	PR8	100
A_1	Ann Arbor 1/57	100
A_2	Asian	200
B	Great Lakes 1739/54	100

The total antigenic potency of the vaccine is 500 CCA units per cc.

Manufacturers. The following pharmaceutical houses are licensed manufacturers of influenza vaccine:

Eli Lilly and Company, Indianapolis, Indiana

Lederle Laboratories, Pearl River, New York

Merck, Sharpe, and Dohme, Philadelphia, Pennsylvania

National Drug Company, Philadelphia, Pennsylvania

Parke-Davis and Company, Detroit, Michigan

Charles Pfizer and Company, Brooklyn, New York

Pitman-Moore Company, Indianapolis, Indiana

Dosage. The recommended adult dose of polyvalent vaccine for the initial immunization is 1.0 cc. (500 CCA units) subcutaneously, administered on two occasions separated by two or more months. Preferably the schedule of vaccination should be completed by November 1. Each fall thereafter, prior to November 1, persons in the groups specified to receive continuing protection and who have already had the initial immunizing series should receive a 1.0 cc. booster dose of the vaccine subcutaneously.

Effectiveness. Numerous reports[2-10] of vaccine evaluations carried out within recent years have demonstrated that influenza vaccination may be expected to be from 60-75 per cent effective in preventing the disease.

Reactions. In adult populations, a low incidence of side reactions may be expected. These are most frequently in the form of transient febrile responses or local tenderness at the injection site. Penicillin sensitivity need not be of concern when injecting influenza vaccine, for current preparations contain none of this antibiotic. Since the vaccine is produced in eggs, the Advisory Committee has advised *against* vaccination for persons who are unable to eat eggs or chicken because of food allergy, or who have had a definite allergic reaction, whether urticarial, asthmatic, or anaphylactic, on previous inoculation of an egg vaccine.

Why a Continuing Vaccination Program Now for the Chronically Ill?

In the past, influenza immunization programs have tended to be intermittent, predominately in response to public concern before and during epidemic periods. Such epidemics tend to recur in cycles of unpredictable periodicity, but an endemic incidence occurs continually. For these reasons immunization of the specified high-risk groups is recommended to begin now and should be continued annually, regardless of the predicted incidence of influenza for a particular year.

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MEDICAL CENTER

Message from the Dean

During one of the sectional meetings of the Oklahoma Conference on Aging last June, a prominent physician of northwest Oklahoma stated that the medically needy aged were being seen by doctors but the problem was that the University Hospitals would not take these people when they were referred.

In August, one of the County Commissioners in Oklahoma County told a delegation from the Oklahoma City Hospital Council that there really would not be much of a problem concerning the medically indigent in Oklahoma County if the University Hospitals would take a larger share of these patients.

The two statements indicate that certain individuals think of the University Hospitals primarily as charity institutions with no other obligation than to care for most of the medically needy of the state. It is a continuing problem to inform the public on matters such as these and we take every opportunity to do so.

The statutes creating the University Hospitals clearly indicate that they are to serve the teaching needs of the School of Medicine. Obviously they cannot serve these needs without patients, and the better the care, the better the teaching—or reverse the two if you prefer. Any way you say it, many patients receive a lot of good care as a by-product of the teaching program and many more could be served if more adequate hospital facilities and funds were available.

In order to have a balanced teaching program there must be a properly balanced variety of patients. With the very limited number of beds at University Hospitals this cannot be achieved by chance, or by taking patients on a first come basis. There must be careful selection of the patients to be admitted.

If the citizens of the state want the University Hospitals to take a greater part in providing care for the medically needy, then funds must be provided for expanding the physical plant, to meet the added operating costs to train the necessary personnel. If this is not done, then many who seek and need to be admitted to the University Hospitals, will, of necessity, have to be turned away.

Mark R Everett

Adrenal Steroids appear to be clearly indicated in patients with the nephrotic syndrome; sometimes helpful in patients with renal lesion of generalized collagen disease, and probably contraindicated in chronic nephritis and renal insufficiency.

The Use of Adrenal Steroids in Renal Disease*

C. WILLIAM DAESCHNER, JR., M.D.

In 1945, C. William Daeschner, Jr., M.D., graduated from the University of Texas School of Medicine where he is now Professor and Chairman of the Department of Pediatrics.

Doctor Daeschner is certified by the American Board of Pediatrics and is a member of the American Academy of Pediatrics, the Southern Society for Pediatric Research, the American Federation for Clinical Research and the Southern Society for Clinical Research.

IN THE DECADE since the introduction into clinical medicine of the adrenal glucocorticoid compounds,[1] cortisone and its derivatives have been used as anti-inflammatory agents in a wide variety of human diseases.[2] In relation to the kidney they appear to have established a firm place in the management of the uncomplicated nephrotic syndrome[3-7] and an equally promising, though somewhat less successful, role in the uncomplicated nephrosis of adults.[8-12] In other areas their usefulness is not clearly established (*e.g.*, lupus nephritis, anaphylactoid purpura with nephritis, subacute and acute nephritis) while in patients with reduced renal function the incidence of complications often contraindicates their use.[13-22]

A principal problem in the selection of patients for steroid therapy is caused by our lack of knowledge of the etiology of the renal lesion and of the way in which adrenal glucocorticoid compounds influence the morphologic changes. This problem of the classification of so-called hypersensitivity diseases of the kidney for the purposes of prognosis and treatment has long created a major medical impasse. The pathologist, seeing end stage renal disease, was prone to place all patients in the category of chronic nephritis while the clinician, observing several different clinical syndromes during life, found a unitarian concept difficult to accept. The advent of successful management of the nephrotic syndrome with cortisone widened the breach in that these patients appeared to get well during steroid therapy while classic chronic glomerulonephritis frequently did not improve or was made worse by steroid therapy. This disparity becomes less formidable if we look at this problem in the light of the work of Jones[23] and of Mellors and Ortega[24] and examine the response of the kidney to injury.

Figure 1 shows the familiar picture of the glomerular tuft with its afferent arteriole breaking up into multiple capillaries which again join to form the efferent arteriole. The capillaries of this vascular bed are composed of three layers: the lining intima, an epithelial covering, and a thin basement membrane between these two layers. Preservation of glomerular structure, particularly the basement membrane, seems to be the focal point of survival or death of the nephron in hypersensitivity diseases of the kidney.[23-25] Electron microscopy and special

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Presented at the Third Oklahoma Colloquy on Advances in Medicine, 1960.

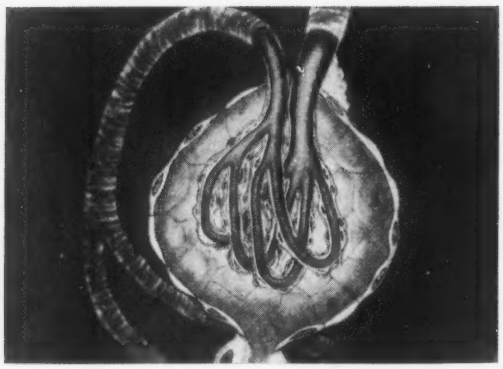

Figure 1. Diagrammatic representation of the structure of the glomerular tuft, preservation of which seems to be the focal point of survival or death in renal disease.

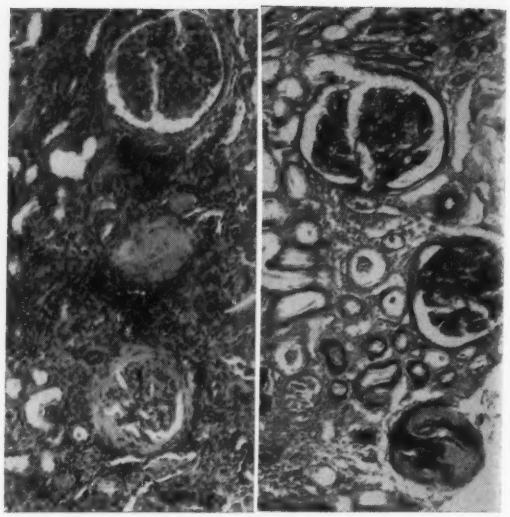

Figure 2 A & B. Light microscopy of a section of kidney obtained by percutaneous biopsy to illustrate the marked glomerulosclerosis that occurs in a patient with a long-standing untreated nephrotic syndrome. (A) Standard H&E preparation, and (B) PAS technique for connective tissue elements.

connective tissue stains for light microscopy have now well established the existence of the basement membrane as a potential connective tissue space.[26] Like other parts of the body in which the major response to injury occurs in the connective tissue elements, the glomerulus responds by changes in the supporting connective tissue of its capillaries. Thus, regardless of the noxious agent, the final changes are limited to the potential reaction of the glomerular connective tissue. It is then readily seen that a multitude of etiologic circumstances are compatible with the production of a similar glomerular lesion and a variety of clinical syndromes.

Why then the difference in steroid responsiveness of various related renal diseases (*e.g.*, acute nephritis, the nephrotic syndrome, subacute nephritis, and chronic nephritis)? A partial answer may be found in the duration and degree of the injury. Acute nephritis represents a brief insult from which there is complete recovery and no longstanding ischemia to encourage or perpetuate scar formation. Significantly persistent basement membrane changes are absent in the glomerulus in acute nephritis. Chronic nephritis, conversely, is often clinically inapparent yet active for long periods so that the diagnosis is first established only after fairly extensive basement membrane thickening and occlusive scarring of glomeruli is present (figure 2). The nephrotic sydrome occupies an intermediate position. It begins with massive proteinuria, but this appears to be well tolerated by the kidney for short periods of time. If adequate steroid treatment of the nephrotic syndrome is instituted early, basement membrane scarring is minimized and kidney structure and function are preserved (figure 3.) However, if nephrotic proteinuria is allowed to continue for long periods, scarring as evidenced by thickening of the glomerular basement membranes becomes prominent and functional changes follow, leading to an end stage kidney similar to that of chronic glomerulonephritis. These patients, as might be expected, are poorly responsive or completely refractory to steroid therapy.[7]

This mode of thinking, if projected back to the early stages of chronic or subacute nephritis, suggests that here, too, we may one day find that steroid therapy will be of value in preventing the relentless progression of morphologic destruction of the nephron. Recent workers[25,27,28] have emphasized the use of renal biopsy in an effort to discover the early lesions of such chronic renal disease as the nephritis of lupus erythematosis so that attempts at treatment may be instituted

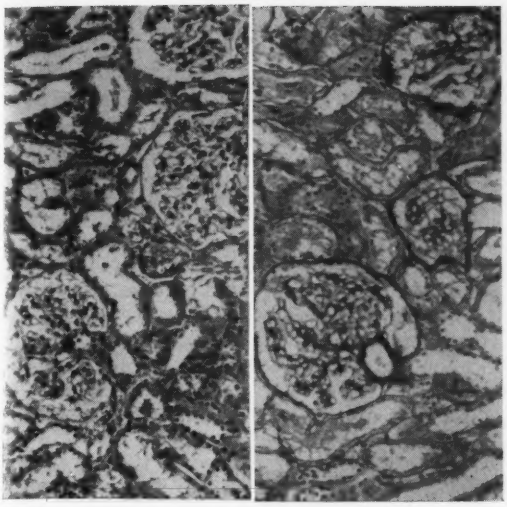

Figure 3 A & B. Standard H&E (A) and PAS (B) stains of a renal biopsy specimen from a patient with the nephrotic syndrome who had been successfully treated with steroids one year earlier. He remained free of all clinical and chemical evidence of nephrosis in the interim.

prior to the appearance of the extensive and permanent scarring.

With these thoughts as a background, we can now examine individually some of the areas of usefulness of steroids in renal disease. Table 1 indicates the areas in which the use of steroids has been shown to be of definite value, those areas where the probable value in at least arresting the course of the disease has been demonstrated, and finally those areas where use is of questionable value or where use is clearly contraindicated.

Definite Value
1. Idiopathic nephrotic syndrome of childhood

Probable Value
1. Idiopathic nephrotic syndrome in adults
2. Nephrotic syndrome associated with disseminated lupus erythematosis

Questionable Value
1. Nephrotic syndrome associated with amyloidosis
2. Nephrotic phase of chronic glomerulonephritis
3. Acute glomerulonephritis
4. Subacute glomerulonephritis
5. Anaphylactoid purpura with nephritis

Probable Contraindication
1. Marked renal insufficiency from any cause
2. Renal disease secondary to or associated with severe hypertension
3. Pyelonephritis

Table 1. Anti-infalmmatory steroids in the treatment of renal disease.

It might be well at the onset to state and partially attempt to justify the dose of steroids used in renal disease. Since patients with diseases of the kidney do not have defective hydrocortisone synthesis or abnormally low levels of circulating or urinary glucocorticoids, the use of cortisone in this situation cannot be considered replacement therapy in the usual physiologic sense that we use replacement therapy when giving thyroid to the hypothyroid or cortisone to the patient with virilizing adrenal hyperplasia. Studies have shown that the effective quantity of cortisone in most renal diseases greatly exceeds the amount necessary for physiologic replacement. These relatively massive amounts of cortisone used for antiinflammatory rather than physiologic purposes have been termed pharmacologic doses.[29] The precise justification of these doses is difficult since the mode of action of cortisone in the hypersensitivity diseases remains obscure. However, fairly extensive clinical experience has now accumulated to support the necessity and effectiveness of these doses of cortisone and cortisone-like compounds.

The pharmacologic dose of cortisone and equivalent amount of other related steroids as used in the management of the nephrotic syndrome is shown in table 2. The dose is estimated in terms of square meters of body surface area for convenience since, at least in pediatric practice, the range of body weight is extremely large and would require multiple per kilogram dose schedules. A dotted line in table 1 separates cortisone

Steroid	mgm/M²/day
Cortisone	250-300
Hydrocortisone	200-250
Prednisone	50-60
Prednisolone	50-60
Triamcinolone	40-50
Methyl prednisolone	40-50
Dexamethasone	7.5-10

Table 2. The equivalent pharmacologic dose of various adrenal glucocorticoids and synthetic derivatives used daily in treatment of the nephrotic syndrome.

	No.	No. Well	No. Active	No. Dead
Patients first seen after three months of illness	18	3 (17%)	13 (72%)	2 (11%)
Patients seen within first three months of illness	32	30 (94%)	2 (6%)	0

Table 3. Present status of 50 patients with the nephrotic syndrome treated in the past 3½ years.

and hydrocortisone from a listing of some of the ever increasing number of delta-1 substituted derivatives. In general, the latter appear to have less influence on water and salt metabolism and upon blood pressure than do the former but exert a comparable degree of anti-inflammatory activity. In recent years our experience has been limited to various members of the delta-1 substituted group, principally prednisolone and triamcinolone.

Management of the idiopathic nephrotic syndrome, a not uncommon problem in childhood, was singularly difficult and unsuccessful prior to the introduction of steroids. In the few long term follow-up studies that were carried out prior to the therapeutic use of cortisone, almost no twenty-year survivors were discovered.[30] With the early successes in the elimination of nephrotic proteinuria and restoration of these patients to clinical as well as chemical normalcy, great doubt was expressed by many observers as to the long term value of such treatment; and there were many who, recognizing the tendency of the idiopathic nephrotic syndrome to spontaneous remissions following a variety of therapeautic measures, denied any specific therapeutic role to cortisone. However, ten years later, most workers now state unequivocally that mortality rates are decreasing and patients are clearly improved in a manner not seen in the presteroid era. Our own experience[7] confirms this and at the same time emphasizes the need for early treatment if this good prognosis is to be achieved (table 3).

Preparation
- Freedom from all evidence of infection
- Renal biopsy evaluation if history is doubtful as to existence of prior renal disease or duration of the nephrotic syndrome

Steroid Therapy
- Daily dose—see table 2—in 4 equally divided doses
- Continue until all urines are entirely free of protein for 48 hours
- Reduce by 2.0 mgm/dose for 3 days until a dose level of 2.0 mgm every 8 hours is reached
- Discontinue for 3 days

Table 4. Management of the nephrotic syndrome.

The plan of treatment as outlined in table 4, with minor individual variations, has been in use in our clinic for the past four years. In this period all fresh cases have cleared completely and, with the exception of three who have moved away, are being followed and at this time are free of proteinuria and other evidence of the nephrotic syndrome.

The duration of treatment in fresh, uncomplicated cases usually does not exceed 14 to 16 days. However, patients who have had longstanding proteinuria (even trace to 1+ amounts) or previous treatment that was terminated prematurely must frequently be treated for 21 to 28 days. Although we occasionally continue treatment as long as 35 days in very resistant subjects, we have not to date seen any patient who improved after the 28th day of high dose steroid therapy.

In those patients who are not entirely protein free at the end of the period of intensive steroid therapy, one of two regimes is followed. A patient is either placed on standard therapeutic doses on Monday, Tuesday and Wednesday of each week with no steroids given the rest of the week and this continued until proteinuria has cleared completely, or the patient is placed on one-third to one-fourth the standard therapeutic dose and this continued on a daily basis until the patient is free of proteinuria. Following the period of initial treatment a prophylactic

- Daily dose—see table 2—in three equally divided doses on Monday, Tuesday, and Wednesday of each week for 6-12 months
- Penicillin-V, 125 mgm. daily for 12-18 months
- Daily urine test with sulfonsalicylic acid solution for an indefinite period of time
- Social isolation to prevent infections
- No immunizations until free of proteinuria for 12-18 months

Table 5. Prophylactic measures

Minor
• Obesity and abnormal "Cushingoid" distribution of fat
• Striae and darkening of scars
• Hirsutism and changes in hair color
• Moniliasis
• Mild retention of water and salt
• Mild elevation of blood pressure
Major
• Potentiation or obscuring of infectious processes
• Marked elevations of blood pressure with hypertensive encephalopathy
• Convulsions and status epilepticus
• Personality changes
• Severe anasarca
• Hypokalemic alkalosis
• Osteoporosis with fractures
• Insulin resistant diabetes mellitus

Table 6. Complications encountered in the use of anti-inflammatory steroids in the management of the nephrotic syndrome.

regime is introduced. The prophylactic steroid and supportive therapy shown in table 5 is based upon the idea introduced by Lange,[31] who suggested that the antigen-antibody reaction thought to be responsible for nephrotic proteinuria requires 5-7 days to develop. The interposition of a blocking dose of steroids at intervals not longer than four days should prevent this while lessening the tendency to adrenal atrophy associated with continuous steroid therapy. Others have discounted this idea and given prophylactic steroids daily in doses of one-half to one-fourth the initial therapeutic level or have omitted prophylactic steroid therapy entirely. Our own experience has been good with the three day program as recommended by Lange.

Retreatment with steroids is carried out whenever proteinuria appears for more than 24 hours. These treatments usually require only 3-7 days, and the patient is then returned to the prophylactic schedule. While we recognize that some of these recurrences of trace to 1+ proteinuria may have cleared spontaneously in a few days, the risk of delay leading to a fixed or unresponsive proteinuria has led us to this criterion for retreatment.[7]

The nephrotic syndrome in adult subjects is more commonly associated with other systemic conditions and pre-existing renal disease. In spite of this, good results have been obtained in some patients[8-12] who have received a regime similar to that described for children. The child or adult with the nephrotic syndrome associated with disseminated lupus erythematosis[16, 21] or anaphylactoid purpura[22, 25] presents a much more difficult problem. In most of these subjects some degree of glomerular scarring is present at the time the patient's renal involvement is detected. In addition, the basic disease often requires a prolonged period of steroid therapy. It is therefore our policy in these patients to begin treatment with steroids in appropriate therapeutic doses (*e.g.*, triamcinolone 40-50 mgm/M^2/day) but after 3-4 weeks of treatment to begin a very gradual reduction in dose and to continue with the least dose that will control symptoms or the highest dose that is not associated with prohibitive side effects. The latter doses are then given for periods of 8-12 months in an effort to minimize progression of the renal lesion. In our experience, complete restoration to normalcy in patients with evidence of kidney disease and lupus has not occurred. However, certain recent reports indicate that prolonged periods of intensive treatment may greatly extend life and in some cases produce inhibition of the normally progressive renal process.[21] The use of steroids in the treatment of patients with chronic renal insufficiency is usually associated with a progressive rise in the BUN and blood pressure and often with marked retention of water and salt. In such patients steroid therapy is not associated with improvement in the basic process and frequently leads to deterioration of the patient's overall condition. A similar contraindication to the use of steroid therapy exists in the patient with chronic pyelonephritis. These patients appear to have chronic destructive renal disease on the basis of a continuous or recurrent infection with micro-organisms. The use of steroids in suppurative diseases generally is fraught with the dangers of increased activation and dissemination of the infection; and though there is no reported experience with steroids in pyelonephritis, a therapeutic trial in this area would seem not only fraught with dangers but not likely to be beneficial.

Although relatively little evidence is available a few workers have suggested that ste-

roid therapy may favorably influence the course of early subacute nephritis. Other workers deny this, and the small number of reports suggests that little real benefit has accrued from the use of steroids in subacute nephritis.[17-20] The use of steroids in acute glomerulonephritis is frequently associated with a rising BUN, a reduction in urine volume, and an elevation in blood pressure—though again a small number of favorable reports are available.

As indicated by the above discussion, the complications of steroid therapy will vary with the condition of the patient, the type of disease being treated, and the length of time high dose steroid therapy is continued. For convenience the complications in table 6 are grouped under those that might be considered mild and those usually considered major. In general, continued steroid therapy in the presence of minor complications will not compromise the patient's well being significantly. However, it can readily be appreciated that several of these minor complications might constitute a major contraindication to further intensive steroid therapy. The major complications individually are usually sufficient indication for the discontinuation of steroid therapy or at least for a marked reduction in dose. Though these are uncommon with the newer delta-1 steroids, they may still be encountered in any patient whose treatment continues for more than two or three weeks.

Summary

It would appear that adrenal steroid therapy in the child with the nephrotic syndrome is clearly indicated. Though not as often successful, steroid therapy of the adult with the nephrotic syndrome is probably equally desirable. The latter may require longer periods of treatment, however. The use of steroids in the other hypersensitivity diseases in which the kidney is involved seems indicated until better and more specific forms of therapy are available and, if used intensively for long periods of time, appear to prolong life and minimize the progression of the fatal renal lesion. The use of steroid therapy in acute and subacute nephritis continues to be the subject of some controversy, but it would appear that there is little firm evidence for its value in this area. Steroid therapy in the patient with renal insufficiency or pyelonephritis is clearly contraindicated.

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ABSTRACTS

Diagnostic Problems Presented By the Leukemoid Reaction

JACK D. WELSH* and WILLIAM F. DENNY**

Medical Times—January 1960

1. The findings in sixteen patients seen over a three-year period who fulfilled the strict criteria of a leukemoid reaction as set forth by Hill and Duncan were reviewed. This phenomenon accompanied malignancy in five patients, infection in eight patients, and was associated with miscellaneous conditions in three.

2. Illustrative case records are presented to show some of the difficulties in deciding whether a patient has a leukemoid reaction or leukemia.

3. A discussion of the laboratory data in problem patients is given and the importance of evaluating all evidence before instituting antileukemic therapy is emphasized.

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Prestige and Social Interaction On a Metabolic Ward

WILLIAM W. SCHOTTSTAEDT,* RUTH H. PINSKY** DAVID MACKLER*** and STEWART WOLF****

Psychosomatic Medicine, **21:** 131-141, March-April 1959

The events occurring during this study furnish striking evidence of the important effects of prestige and group attitudes upon individual behavior. One patient was able to remain on his diet partly because of the prevailing attitude that to fail in this was a sign of "weakness." A second patient who failed to adhere to the dietary regimen suffered a serious loss of prestige among his fellow patients. A third patient left the hospital before quantitative studies had been started, largely, it was thought, because of her inability to achieve a position of esteem within the patient group.

The dramatic sequence of events involving Mrs. Dietrick and Mrs. Parry drew much of its emotional force from the impact of group attitudes on the individuals involved. Without the background of competition for the place of eminence on the ward, much of what took place would not have. Group opinions affected the dress and manner of Mrs. Dietrick early in the study, influenced participation in ward activities of both women, occasioned requests for special privileges, and probably contributed to the complete withdrawal of Mrs. Dietrick observed at the end of the study.

Another sequence of events of great interest in this regard was that which began with lapses from the strict dietary regimen prescribed for Mr. Potts. Here was a miniature study of delinquency beginning in a group leader. Only one person followed his lead, the man closest to him, who felt somewhat guilty because he had asked to be moved out of the room they had shared. General disapproval of the group and reprimand by the staff ended this deviation from prescribed behavior.

The development of undesirable side effects from placebo administration also seemed to be related to interpersonal relationships on the ward. Although Mr. Potts had received a variety of agents without such effects, he developed feelings of giddiness and malaise while receiving a placebo given to him at a time when he was feeling rejected by a patient to whom he had been very close.

All of these observations indicate the importance of interaction between internal psychologic factors and social forces within the environment in determining behavior and response to treatment. The observations also emphasize the importance of understanding the personality of the patient and the social structure of the therapeutic setting for all those who are concerned with medical care. It is evident that close collaboration between investigators in the social and medical sciences can make a contribution to both fields.

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Effect of Prolonged Thyroid Administration On Aged Male Rats

J. F. LHOTKA,* L. G. McARTHUR** and A. A. HELLBAUM***

Nature **184:** 1149-1150, 1959

Purified thyroid extract (Proloid) was orally administered to male rate (400 gm.) from 12 months to sacrifice at 21 months in three daily dosage series equivalent to 15, 60 and 240 mgm respectively for a 70 kgm. human. At necropsy all principal organs were grossly examined and routinely processed by the paraffin method after neutral formalin fixation. Sections were stained histochemically for neutral and acid polysaccharides and histologically for reticular, collagenic, and elastic connective tissues. Sections were then compared with untreated control sections and with each other as well as with sections obtained from I^{131} induced hypothyroid rats. Detailed examinations revealed that other than expected toxic alterations in the 240 mgm series there were no consistent pathologic architectural variations in the connective tissues of these animals, in the vascular structures and in the general epithelial tissues. It would appear that induced hyperthyroidism under the conditions of this experiment has little effect on these tissues in the aged male rat.

*Associate Professor of Anatomy.
**Now in United States Army Medical Corps.
***Professor of Pharmacology.

Alums Celebrate Golden Anniversary

W. F. Lewis, M.D., Lawton, took office as president of the Alumni Association of the University of Oklahoma School of Medicine at the annual banquet and dance October 23.

Alumni of the University of Oklahoma School of Medicine pledged support of a ten-year development program for the Medical Center at their annual membership meeting and golden anniversary celebration October 23 in the Skirvin Tower Hotel, Oklahoma City.

A record total of 306 persons attended the banquet and dance marking the 50th birthday of the founding of the four-year medical school.

They also:

ONE—Elected W. F. Lewis, M.D., Lawton, president, succeeding John R. Taylor, M.D., Kingfisher.

TWO—Bestowed "Professor Emeritus of the Year" honors upon Robert Mayburn Howard, M.D., Oklahoma City, 82-year-old professor emeritus of surgery and a member of the original faculty of the four-year school.

In endorsing plans for Medical Center growth, the Alumni Association promised active backing to secure implementation of a ten-year proposal which has been approved by University of Oklahoma Regents as a statement of medical education needs.

Recommended expenditures over the decade are $17,029,000 for land, buildings, equipment, repairs and modernization.

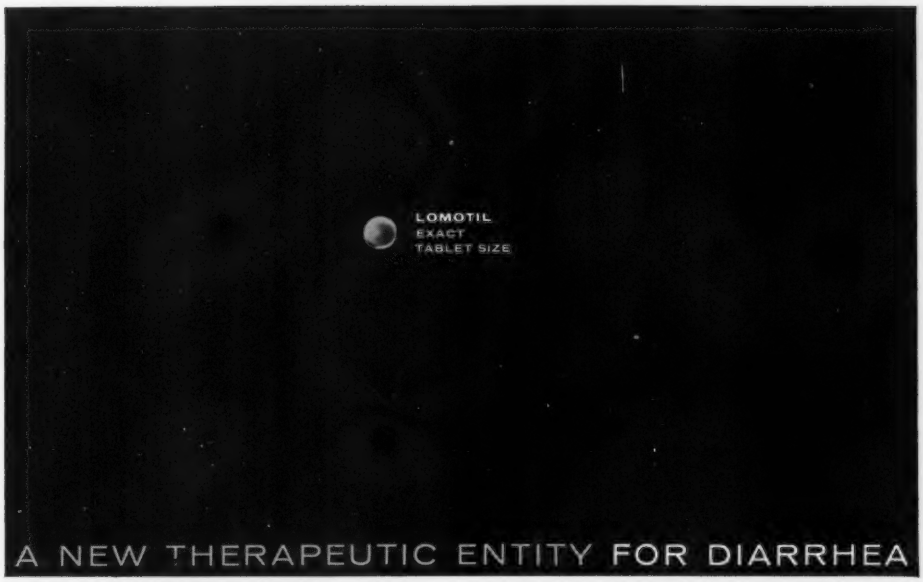
In addition to Doctor Lewis, the Alumni named Samuel T. Moore, M.D., Oklahoma City, vice-president; Wayne A. Starkey, M.D., Altus, secretary; and Robert W. Lowrey, M.D., Poteau, treasurer.

Five new trustees were installed. They are: Richard Lee Winters, M.D., Poteau; Clifford A. Traverse, M.D., Alva; William R. Cheatwood, M.D., Duncan; William K. Ishmael, M.D., Oklahoma City, and Joe L. Spann, M.D., Tulsa.

The program included recognition of the reunion classes of every fifth year from 1910 (Eva Wells, M.D., Oklahoma City, was the only member present), through 1955.

Honored guests included the only other known living members of the 1910 faculty, Everett S. Lain, M.D., professor emeritus of dermatology, and Joseph T. Martin, M.D., professor emeritus of medicine, both of Oklahoma City and both past recipients of the Alumni citation.

"Professor Emeritus of the Year" award is presented Robert Mayburn Howard, M.D., left, Oklahoma City, professor emeritus of surgery, by L. J. Starry, M.D., professor of surgery, at the alumni banquet commemorating the 50th anniversary of the four-year-medical school. He was a member of the 1910 faculty. With him is Mrs. Howard.



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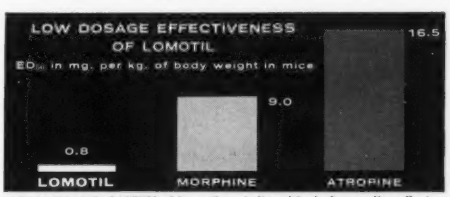

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Research in the Service of Medicine

Special Articles

Big Government: Threat to Our Free Market

LEONARD E. READ
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The Foundation for Economic Education, Inc.
30 South Broadway, Irving-on-Hudson, New York

IT IS hardly helpful to discuss threats to the free market without first discussing freedom itself.

Freedom, as I see it, is of two general types: psychological and sociological.

Each of us is entitled to the fullest opportunity in achieving psychological freedom, this having to do with man freeing himself from his own fears, his own superstitions, his own frustrations, his own meager perceptions, his own ignorance. This is a chore of infinite dimensions.

On the other hand, we should not have to spend a moment of our time on the sociological aspect of freedom, this having to do with man imposing his will by force upon other men; this having to do with authoritarianism. What moral right, for instance, has any person on this earth to control or to forcibly direct what another shall discover, invent, create; where he shall work; what wage he shall receive; what hours he shall labor, or what and with whom he shall exchange? Most of you will agree that no person has any such right, nor any two persons, nor any 180,000,000 persons, nor any agency, government or otherwise, which the 180,000,000 may contrive.

Man's moral right to inhibit the action of others is extremely limited. To demonstrate: man's energy manifests itself in two ways—destructively and creatively. If I were to use my hand to paint a picture, to write a book, to build a house, to strew seed, these would be examples of my energy manifesting itself creatively. If I were to make a fist of this same hand and sock you in the eye, that would be an example of my energy manifesting itself destructively.

Man has the moral right to inhibit the destructive energies of others; he has no moral right to control or to forcibly direct the creative energies of others. Yet, herein lies the root of this issue. To establish the fact that it is the issue, let us take a few brief glimpses at our own history.

A Bad Beginning

We began in a condition of pure and unadulterated communism. I refer to the year 1620—to our Pilgrim Fathers. It made no difference how much or how little any member of the colony produced; everything went into a common warehouse under authority,

Presented before the Oklahoma County Medical Society, Oklahoma City, November 22, 1960.

and the authority doled out the proceeds according to the authority's idea of the need. This procedure—from each according to his ability, to each according to his need—was held forth more than two centuries later by Karl Marx as the ideal of the Communist party.

There was a compelling reason why this communalistic or communistic practice was discontinued. Many members of the colony had starved. Too often the warehouse ran out of provender. Governor Bradford, during the third winter, in discussing the problem with the remaining members of the colony, decided that, come next spring, they would forego the communistic way of life and try another plan—that each was to have what he himself produced! Came next spring and not only were the fathers in the field, but the mothers and the children were there also.

It was the adoption of this private property practice, the acceptance that each had a right to the fruits of his own labor, the approval of "to each according to his merit," that began the private property way of life, that initiated an era of progress and prosperity.

The Revolution

Sooner or later, such a way of life was certain to result in revolutionary political ideas. It did result in the American Revolution. This was not essentially an armed conflict with King George III—not Valley Forge, Yorktown, and other military conflicts. Instead, it was a revolutionary idea! Here we have it, the very essence of Americanism:

> "We hold these truths to be self-evident; that all men are created equal; that they are endowed by their Creator with certain unalienable rights; that among these are life, liberty and the pursuit of happiness. That to secure these rights, governments are instituted among men . . ."

This was at once a spiritual, a political and an economic concept. It was spiritual in that it proclaimed the Creator as the Source of Rights; political in that it implicitly denied that the State was the source of rights; and economic in this sense: If an individual has a right to his life, it follows that he has a right to sustain his life, the sustenance of life being nothing more nor less than the fruits of one's own labor.

Instruments of Freedom

The Constitution and the Bill or Rights were political instruments for the purpose of implementing this revolutionary idea. These American political instruments were not aimed at prohibitions against the people; they were limitations on government, and unprecedentedly successful limitations. Government was limited to inhibiting and penalizing the destructive actions of men, of doing for everyone equally that which each had a moral right to do for himself, of invoking a common justice.*

What were the effects of thus limiting government? First, there wasn't a citizen who turned to government for succor. Government had nothing to dispense nor did it have the power to take from some and give to others. Under these circumstances the citizens assumed the responsibility for their own welfare. This made for a self-reliant people. Second, with government limited to inhibiting destructive actions and with no control over creative actions, the creative energies of the people were freed. The combination of self-reliance and the feeling of creative human energy seem to have had a major part in the phenomenon we refer to as the Miracle of America.

Pursuit of Power

However, something happened to this wonderful pattern. Government is nothing more or less than individuals organized into a compulsive apparatus; individuals who are no more immune to affluence and power over others than are the rest of us. These individuals, having a monopoly of force at their command, soon discovered that they could intrude into the creative activities and the productive enterprises that the citizens had reserved for themselves. They also found out that they could, by the use of force, collect the wherewithal to make up the deficits their operations incurred.

I would like to suggest that the extent to which government in America has departed from its negative function of inhibiting destructive actions and has entered into the control of creative actions, to that extent has

*Slavery was one of several exceptions to the American principle.

socialism or communism grown in our homeland; to that extent have private property, free market, limited government concepts and practices been destroyed.

Can we be at all precise in measuring the growth of socialism and the consequent loss of freedom? Not too precise, but we can get an idea of the trend by measuring the loss in freedom of choice the average citizen has experienced over the years with his income dollar.

A little more than a century ago the average citizen had a 95-98 per cent freedom of choice with each income dollar. That was because the take of government—federal, state, and local—was 2-5 per cent of all earned income. But, as government departed from its limited position and entered into enterprise after enterprise, and as it assumed more and more the resposibility for the welfare and prosperity of the citizens, the take of all earned income, percentagewise, increased. Today, the take is about 35 per cent.

Some persons who dislike facing up to problems contend that this is not too serious; that, on the average, the citizen still has 65 per cent freedom of choice with his income dollar, and that that's not bad. Let us, however, take no solace from this fact for it has been discovered that whenever the take of earned income by a nation gets to that high level where it is no longer politically expedient to collect the total sum by direct tax levies governments have, with the support of the people, resorted to inflation, which is to say resorted to an increase in money volume. As a rule, this point is reached between 20-25 per cent of the total earned income. The people support increases in money volume apparently because they feel they can have their cake and eat it too. In short, they can maintain their so-called benefits while escaping the payment of taxes directly.

Techniques of Inflation

Once governments used what was called coin clipping. The sovereign called in the coin of the realm, clipped off the edges, and returned the smaller pieces to the people. This was a good trick until the coins became too small to return.

During the French Revolutionary period, the government issued the assignat, this being irredeemable money supposedly secured by confiscated church properties. France was brought to a state of bankruptcy.

In the Argentine today only a portion of the huge federal expenditure can be defrayed by direct tax levies so the government merely prints billions of new pesos. The condition there is utterly chaotic.

Here in the U.S.A. our system of inflating has the merit of being so complicated that no one can understand it. We monetize debt! The more debt we have, the more money in circulation!

The Russians probably have the most honest system of dishonesty. The government forces the citizens to buy the government bonds and then the government cancels the bonds!

What I am suggesting is that inflation is the fiscal concomitant of socialism or the welfare state, call it what you will. Politically, it is utterly impossible to finance this type government except by inflation. Anyone who wishes to stop inflation has no choice whatever except to reduce the over-extended activities of government and the exorbitant costs which over-extended government make necessary.

Government in America has rather rapidly increased its take of earned income. Have we increased money volume? Yes, about 700 per cent since we began deficit financing and the monetization of debt. What has happened and is happening to dollar value and to the price level needs no more comment than the fact that our dollar has lost 52 per cent of its purchasing value since 1939.

To assess the fiscal consequences of government run riot, it is useful to take a look at France, which, in numerous economic respects, resembles the United States. In 1914 France began a program of governmental expansion, of the government assuming the responsibility for the welfare and prosperity of its citizens. It is clear that these governmental welfare and economic direction and control programs are more and more financed by inflating the money. The people too often demand this head-in-the-sand means of escaping the penalty of their errors. What, in the brief span of 46 years, has happened to

the value of the franc? It has lost more than 99½ per cent of its purchasing value!

And, what has happened to the price level? I recall having a dinner in Paris in World War I days. The price was five francs, the equivalent of a 1918 dollar. My next visit to Paris was in 1947. I took a friend to luncheon, admittedly to a fancier place than I visited when a soldier in War I. The check was for 3,400 francs. Two of us went to the same restaurant two years later and the check was for 4,100 francs. Today, a meal for two at this same restaurant is about 6,000 francs.

Visualize with me, please, a young Frenchman in 1914. He was 19 years of age, forethoughtful, concerned about 1960 when he would reach retirement. So to protect himself, he purchased a paid-up annuity; one that would return him 1,000 francs per month beginning January 1960. In 1914 he could have lived adequately on such an income. But, today, that 1,000 francs wouldn't purchase more than a fair meal—one meal in a whole month! Careful examination will reveal that the reason for this starvation conclusion is precisely the same reason that caused members of the Pilgrim Colony to starve: applied socialism!

Should you care to test the historical validity of the above cause and effect sequences, I would refer you to some of the countries that we regard as being in socialistic and financial difficulties. As short a time as 31 years ago, the take of earned income by government in Russia was 29 per cent, not 35 per cent as is the case in the U.S.A. today. At that time in Germany, it was 22 per cent; in France and England, it was 21 per cent. I repeat, we are now at 35 per cent and there isn't a single bulwark against greater and greater takes except unreliable and unpredictable political expediency.

Inflation, which follows over-extended government and the consequent costs thereof, is popularly referred to as creeping inflation and as galloping inflation. Be it noted, however, that all instances of galloping inflation were preceded by creeping inflation.

I wish to suggest that inflation in America will be ever so much more catastrophic here than it has been elsewhere and for a very simple season.

We are the most advanced division-of-labor society that ever existed, that is we are more specialized than any other people have ever been. This is by way of asserting that we are further removed from self-subsistence than other peoples, present or past. Indeed, we are so much specialized that every single one of us is totally dependent upon the free, uninhibited exchanges of our specializations. This is a self-evident fact.

Now, in a highly specialized economy, we do not and cannot exchange our specializations by barter. No one, for example, walks into a gas station and offers to exchange a goose for a gallon of petrol. In a highly specialized economy, we effect these exchanges by an economic circulatory system, our medium of exchange, our money. In some respects this economic circulatory system can be likened to the circulatory system of the body, the blood stream. What does the blood stream do? I do not know all of the things it does but I do know that it circularizes specializations. It picks up oxygen in the lungs and ingested food in the midsection and distributes these to the trillions of cells of the body. At these points, it picks up carbon dioxide and waste matters and carries those off. I could put a hypodermic needle in one of your veins, thinning your blood stream to the point where it would no longer perform this circularizing function, and when I reach that point we could speak of you quite accurately in the past tense. Similarly with our economic circulatory system, we can thin our medium of exchange to the point where it will no longer circularize these specilizations of ours, and when we reach that point our economy will be completely, utterly ruined.

During World War I, following the Armistice, my squadron was sent to Coblenz and the Army of Occupation. Every pay day we received more marks than the previous pay day, that was because the German inflation was on. By 1923, it reached the point where 30 million marks would not buy a loaf of bread. A story is told of a German father who passed away leaving his fortune to his two sons, 500,000 marks each. One was a frugal lad who never spent a pfennig

of it. The other was a wastrel. He spent it all on champagne parties. Came the day in 1923 when 30 million marks would not buy a loaf of bread. The boy who had saved everything had nothing, but the one who had spent his money on champagne parties was able to exchange the empty bottles for a dinner. In short, the economy had been brought to a state of barter.

Stemming the Tide

Is there any historical evidence that a country on this type of tobaggan has ever been able to reverse herself? I have found only one significant instance in history and that was in England following the Napoleonic Wars. England's debt, in relation to her resources, certainly was greater than ours is now; her taxation was confiscatory; and the restrictions on the exchanges of goods and services were so numerous that had it not been for the smugglers, the law breakers, many of the people would have gone hungry. Something did happen and it is important for us to take note of what it was.

There was a group of people in England headed by such men as John Bright and Richard Cobden, aided and abetted by others like Frederic Bastiat of France, who understood the principles of the free market and were able to explain these principles. They went all around England writing and speaking concerning them. Members of Parliament listened and as a result there began the greatest reform movement in British history made up of the repeal of restrictive law. They repealed the Corn Laws, which would be like repealing subsidies to farmers here. They repealed the Poor Laws, which would be like repealing compulsory social security here. They repealed other restrictions, and fortunately for Western Civilization England at the time had a monarch—Victoria—who appeared to have no passion for ruling Englishmen in an over-riding sense. She relaxed the sovereignty which they believed to be implicit in her office. She gave them freedom in the sense of prisoners on parole. They roamed all over the world and built empire and progress, a development that went on until just before the beginning of World War I when the same old disease set in again.

What precisely is this disease? It has many popular names such as communism, socialism, the welfare state, state interventionism, fascism, nazism, the planned economy, Fabianism, and the like. I often refer to it as the social cancer because it is obvious that there is something in the body politic which has the capacity for inordinate growth.

I believe we can isolate and precisely define this cell. If you will carefully examine every one of the above so-called progressive ideologies, you will note that each one of them has a characteristic common to all the rest, and it is this common characteristic that is the cell in the body politic that has this capacity for growth. It is in the form of a belief, a rapidly growing belief, in the use of organized police force, which is government, as a means of controlling and forcibly directing the creative activities of the citizens within our society. Think of the distinction between this use of force and the use of force limited to the inhibition of destructive actions.

Let me illustrate with government housing, this being as good as TVA or any other of numberless socialistic ventures.

I can remember the time when and if we wanted a house or housing, we relied on private enterprise. First, we relied on the person who wanted a house. Second, we relied on the one who wanted to compete to construct it. Third, we relied on the one who thought he saw some advantage to himself in lending the money for the tools, the labor and the material. Under this system we built more square feet of housing per person than ever existed in any place on earth. Yet, in spite of this remarkable accomplishment, more and more persons are currently believing that the only way we can have adequate housing is to use the agency of force —government—to take the earnings from some and give these earnings, in the form of housing, to others. In short, we have here again the belief in, and the application of, the Marxian ideal—"From each according to his ability, to each according to his need" —by force.

There is not a segment of the whole economy left untouched by this Marxian practice, for it manifests itself in the economic bloodstream, the medium of exchange.

Now, as this belief in the use of force increases, the belief in free men acting privately, competitively, voluntarily, cooperatively, decreases. As the belief in compulsion rises, the belief in freedom falls. Isn't this axiomatic?

Faith in Freedom

The solution to this problem, then, must take a positive form; namely the restoration of a faith in free men. This is much easier to admonish than it is to accomplish.

Let me give you examples of how faith in free men is lost. If I were to ask a group of citizens the question, "Should the government deliver the mails?", most of them would reply, "Certainly!" Why this certainty? The answer seems clear. Our government has had a monoply of this particular productive activity for so many decades—has pre-empted it for so long—that all enterpreneurs have given up any thought as to how it might be conducted as a private enterprise. They don't even speculate on it as a possible opportunity.

Recently, I asked myself several questions. Don't we deliver more pounds of milk every day than mail? Isn't milk more perishable than a love letter or a catalogue? Isn't milk delivered more promptly, more efficiently, more cheaply than mail? Why couldn't private enterprise deliver the mails? We deliver freight; that's heavier. But, no, we have lost faith in ourselves as free men to undertake this simple task.

Who are these men who have lost faith in themselves? Let us see what these same men have accomplished when acting freely in the area of delivery. They have discovered how to deliver the human voice around the world in one twenty-seventh of a second. They have found out how to deliver an event, like a Rose Bowl game, or a presidential inauguration, into everyone's living room, visually, in motion, in color, and at the time it's going on. They deliver 115 persons from Los Angeles to Baltimore in 3 hours and 39 minutes. They deliver gas from a hole in the ground in Texas to my range at Irvington-on-Hudson, New York at a low price and without subsidy. They deliver every four pounds of oil from the Persian Gulf to our eastern seaboard—more than half way around the world—for less money than government will deliver a one-ounce letter across the street in your home town. These, if you please, are the ones who have lost faith in themselves to deliver a letter.

Now, for a hypothetical example. Imagine that the Federal government had, 180 years ago, decreed that all children should receive, for free, shoes and stockings from the time of their birth until adulthood; that this practice had been going on since the very beginning of our political establishment. Next, imagine someone today questioning this practice, insisting that shoes and stockings should be a family, not a government, responsibility. Do you know how most persons would respond to such "heresy?" They would say, "But, you would let the poor children go unshod!" However, in this imagined example, where we haven't invoked the use of government force as yet, we can observe that children, rich and poor alike, are better shod here where the responsibility is on the family than in countries where the responsibility for welfare is entirely governmental. The poor kids are better shod in countries that are more free than in countries that are less free.

Or consider this depressing but not too unlikely possibility: In the year 2,000 A.D., only 40 years hence, the power and light industry may have been nationalized or "municipalized"—in any event, socialized—for more than a decade. Then, let any one of us suggest that power and light ought to be a private enterprise activity. I can assure you that the suggestion would be received with the same degree of popularity as it would if it were made in Moscow today. American men, in these circumstances, would have lost faith in themselves, acting freely, to produce and distribute electrical energy.

Would you like to know what my faith is in free men? It can be stated in one simple sentence. *I actually believe that you—and I don't care who you are—can control your creative actions better than I can control your creative actions.* Reflection will reveal this to be a most radical view, so radical that few persons care to adopt it. This, it seems to me, is the kind of a belief that must be renewed where it has been lost, and discovered where it is unknown, if the belief in force as a means of inducing creative action is to halt and then recede. The building of

this faith is the essence of making the case against big government's destruction of the free market.

Two questions arise from this brief accounting of present trends: What causes this growth in governmental power with its destructive effects on the free market? What can we as individuals do about it?

What We Can Do

First, the causes of a growing socialism are numerous, perhaps some of them unknown. The most important cause, in my opinion, is an almost total disregard of the spiritual antecedent on which the free market rests. Inattention to the Creator as the Source of Rights locates the State as the source of rights—inescapably.

For one thing, the cause is not an absence of individuals who dislike socialism. The dislikers of state interventionism exist by the millions. But little else can be said. Among these millions not one in ten thousand can be found who can do more than damn that ideology. Only now and then there is an individual who thoroughly understands and can clearly explain socialism's opposite: the free market, private property, limited government philosophy and its moral and spiritual foundations. Without such skilled expositors we have no chance at all of reversing present interventionist trends.

With this seemingly incontrovertible fact in mind, what do we do? Putting my conclusion first, there is nothing that can be done short of bringing into existence several thousand creative thinkers, writers, talkers of the freedom philosophy.*

How do we go about this?

Influence, as I see it, is of two kinds, destructive and creative. It is easy enough for one to influence another destructively. No moral or intellectual attainments are required to do that. However, when it comes to influencing another creatively—that is, advancing the understanding of another—one is limited, absolutely, to the power of attraction.

This needs a bit of explanation. For example, when I go to my golf club the members do not line up to seek my counsel on how to putt, how to swing a club, how properly to stand, and so on. Why? They are aware of my incompetency as a golfer! Now, wave a magic wand and turn me into a Sam Snead or a Ben Hogan. Instantly the situation will change, all will drink at my fountain, sit at my feet, as the sayings go.

Summarize it this way: *Power of attraction follows self-improvement as faithfully as does one's shadow!*

The problem is not to reform others. And for two reasons: First, there is some doubt that we should try to cast others in our fallible images. Second, it cannot be done, anyway.

The problem is not to penetrate the mind of another. Instead, it is to have something in one's own mind that others will want to penetrate, that others will draw on.

One reason why this self-improvement approach is grappled onto so reluctantly is the fear that no audience will form once one is improved. The fear is groundless, and evidence to support this view is all about us. Let any individual become really skilled in any subject and others will seek him out.

It isn't that we lack individuals who have the potentiality of becoming creative thinkers, writers, talkers of the freedom philosophy; it is that most of us are not trying.

Just a word about The Foundation for Economic Education. We seek to better understand this philosophy ourselves and to invent ways of explaining it with an ever-increasing clarity. Our findings are published in a monthly journal, *The Freeman,* and in books. These are made available to anyone, anywhere, who wants them, and for the asking. Reading such material is one of the essential exercises to becoming a skilled expositor of freedom.

Finally, where are we to find the individuals who will save America from an all-embracing statism? They will be found among those who love this country. They will be found among those who are reasonably intelligent. They will be found in this room. Specifically, it is the person who is sitting in your chair.

*Over the years I have been collecting ideas on creative thinking and have assembled them in a paper entitled "On What To Do." Single copy on request.

The Challenge of the 60's*

A. M. DONNELL
President
Oklahoma Hospital Association

DURING the past few years the Oklahoma Hospital Association has sometimes resembled a political action committee, instead of a hospital association. Many state and national developments have forced it into being a quasi-political organization for mutual defense against the inroads of what many refer to as socialistic development. This should have been no surprise, however, because the blueprint has been plain for all to see in many phases of our national activity, both economically and socially.

Many of our nation's industries have been forced to organize within themselves in an effort to more favorably influence public opinion. The petroleum industry spends many millions of dollars each year through its oil industry information committee for this purpose. I recall the days when the oil industry itself was shocked out of its lethargy into action as a result of what they thought was threatened governmental control and action in their industry. Today they are using the same media to inform the public of what they consider discriminatory gasoline tax.

This example is not unique today with many billions of dollars being spent each year for the purpose of moulding public opinion. It was suggested at the recent American Hospital Association Convention in San Francisco in August by a public relations executive, that the A.H.A. should spend 25 million dollars per year for public relations because of the current lack of understanding which exists in the public mind concerning our nation's hospitals. It seems that this understanding can be bought and sold like any commodity in today's market for X number of dollars. It can be measured (public opinion) to a rather fine degree and can be manipulated like a thermostatic control on an air conditioner. In our society we have shopping center public opinion. It can be purchased by the pound or by the bushel.

The American Medical Association is another good example of a professional organization which finds itself in a real predicament concerning public opinion of the medical profession which it represents. One thing is clear and that is the fact that the days are gone when the doctor-patient relationship is inviolate. Gone are the days when a physician or a hospital might claim they are responsible to no one concerning the care of the patient. We must now realize and admit that we do have a responsibility to and accountability for our acts to the public. Unless we assume such responsibility together with all its obligations, we can be sure that a less desirable means of protecting the public trust will be found.

For many years we hospitals have been rather smugly content to rest upon, and hide behind, our tax exempt charitable statuses secure in the feeling our institutions were appreciated and understood. Nothing could have been further from the truth and

*President's Acceptance Address Delivered at Oklahoma Hospital Association Convention, November 3, 1960.

today we are busily defending our hospitals to all categories of the public, from governmental officials and politicians to John Q. Citizen.

The biggest single problem that faces us today in the hospital field is that age old problem of understanding. How do we get through to the people we desire to serve or to have support us? If either Richard Nixon or John Kennedy had the secret formula to this problem, the recent political campaign would not have gone into its last feverish hours with both candidates frantically continuing to campaign for last minute support.

How we meet this public relations challenge is up to us. Certainly it is a common problem to our member hospitals and we should continue to accelerate our public relations program through our association.

We should by all means encourage the formation and growth of our women's auxiliaries and other types of volunteer assistance as a vital part of our program. I am convinced in my own mind and experience that this group of volunteers with their appealing approach and properly organized as a vital hospital department, can be of invaluable assistance in forming public opinion, both IN and OUT of the hospital.

Another area of our responsibility and action is that of tailoring the effectiveness of our hospitals toward fitting the needs of patients. It is not enough to claim that hospitalization is the best buy on today's market just because it is rendered at cost to the patient. It is not enough to claim that we are charitable institutions caring for the physical needs of patients as long as we continue to use obsolete and outmoded methods in the hospital's operation. We cannot decry shortages of all types of professional personnel as long as we fail to utilize them properly either in our personnel organization or in planning the design and arrangement of our physical facilities. We cannot continue to apologize for the quality and cost of hospital care indefinitely and expect public approval. We must do something about it. We must manufacture a salable product which the consumer will accept as a good buy for the money. We cannot expect to justify or secure public understanding of our charges if we aren't good enough accountants to isolate the costs and directly relate the charge to the cost. We also cannot justify the practice of false economy in the operation of our institutions. Many of us have kidded ourselves as administrators by setting ourselves up as indispensable to the hospital's operation. We convince ourselves that we can't afford a professional pharmacist or we can't afford a trained purchasing agent with centralized purchasing and storekeeping, when the truth of the matter might be—we can't afford to be without them.

Which really comes first—the chicken or the egg? Do we secure public approval of our performance before we ourselves are proud of our accomplishments; or should we get our houses in order before we can honestly expect such approval? Perhaps it is a combination of the two that would work better. In this way we can enlist assistance from the public to get the job done.

It is my hope that during my term as President of the Oklahoma Hospital Association, it can make a collective contribution to these and other important aspects of the association's activity. Several facts are certain, however, in this regard. We must all stand united in our efforts toward improving the internal operation of our hospitals, and in influencing public opinion. We must develop maturity in our negotiations with third party purchasers of hospital care. We must develop basic policies and principles with which to measure the many proposals submitted to us in order to maintain continuity and consistency in our program. Our officers, board of trustees and committees must be representative of our membership. In order to keep a healthy hospital association we must also guard against political or religious domination within the organization and certainly to discourage intolerance and discrimination.

News

Scholarship Fund, Civil Defense, Government Medical Care, Osteopaths and Resolutions Receive Attention.

Council, Delegates Hold Special Sessions

Council

A proposal for the OSMA to establish eight $500 per year scholarships for first-year students at the University of Oklahoma School of Medicine was presented to the OSMA Council on November 13 by the Council on Professional Education.

In the lengthy discussion which followed, concern was expressed as to whether the awards should be straight scholarships or low-interest loans.

Under the plan as presented, *the two best qualified* applicants to the School of Medicine would receive $500 scholarships, and the *six most needy* applicants for the first year class would receive like amounts. The program would be financed by a three dollar annual increase in OSMA dues and would be administered by the school's Admissions Committee and the immediate Past-President of the OSMA. The Council on Professional Education would present an annual report to the Council and House of Delegates and the continued operation of the fund would be subject to annual approval of the House of Delegates.

The proposal was the result of follow-up action on a similar plan presented to the House of Delegates last Spring. At that time, the Delegates disapproved a scholarship program proposed by the Kay-Noble County Medical Society, but referred the problem to the Council on Professional Education for further study and recommendation, and asked that it be formally re-submitted at the 1961 Annual Meeting.

In another presentation, the Chairman of the Civil Defense Committee, William H. Reiff, M.D., reported on a recent civil defense meeting which he attended in Chicago, and, at the same time, announced general plans for a stepup in association civil defense activities. According to Doctor Reiff, physicians must think in terms of "medical mobilization" rather than defense, for, in the event of a major disaster of any type, the profession will be almost singularly responsible to put the country back on its feet. "If the responsibility for rendering care is ours, then we must assume leadership in adequately planning for such an unhappy event, to the extent that we can react quickly and with the degree of flexibility which will undoubtedly be required," Doctor Reiff said. He stressed the importance of educational courses in handling mass casualties, and observed that the medical profession must be the health mobilization hub, around which the activities of ancillary personnel will revolve.

Trip To Europe

A proposal to permit OSMA sponsorship of a chartered flight to Europe in 1961 was submitted by Doctor Gallaher and approved by the Council, subject to the proviso that the association itself must be relieved from any liability whatsoever. In brief, the action simply permits a group of OSMA members to use the association's name to charter an airplane, as required by Federal regulations. Only OSMA members and their immediate families will be authorized to participate. Preliminary planning indicates that fares will be about one-half as much as commercial rates.

Also presented to the Council were several other items, subsequently reported to the House of Delegates, as mentioned in the paragraphs below.

House of Delegates

Following the Council meeting, the House of Delegates convened.

C. M. Bielstein, M.D., Chairman of the Professional Advisory Committee to the Department of Public Welfare, led off with a detailed presentation regarding the recent expansion of the welfare medical care program, and the implementation of a new program to provide health care for non-assistance recipients who are over 65 and "near-needy." (See page 856.)

Following Doctor Bielstein's report, President Walter E. Brown, M.D., was called upon to report regarding a previous House of Delegates action (July 31, 1960) which pertained to a threatened 10% cutback in payments under the welfare medical care program.

Doctor Brown reminded the delegates that a quorum had been lost at the last meeting, prior to the passage of the following resolution (H. E. Denyer, M.D., Bartlesville):

"The Oklahoma State Medical Association regrets that the administration of the Department of Public Welfare finds itself in financial difficulty, and states that it will continue to care for the State's poor, and it is sure that administrative changes will be effected to adequately assist the physicians and hospitals in carrying the cost of care of the aged sick.

"Further, that a study committee be furnished the Department of Public Welfare in order to develop ways and means for this to be accomplished."

Due to lack of a quorum, Doctor Brown explained, he was requested to submit this resolution to *all* Delegates for a mail ballot. However, upon failing to find constitutional authorization for a mail ballot, he simply mailed the resolution to the delegates for information purposes.

"Now that a quorum is present," Doctor Brown said, "and despite the fact that P.L. 86-778 made the 10% cutback unnecessary, I move the official adoption of this resolution." The motion carried.

Next, the Council on Public Policy reported on a meeting held earlier in the Fall with representatives of the Oklahoma Osteopathic Association.

Council Chairman J. R. Stacy, M.D., told the Delegates that the osteopaths had made two requests: (1) That professional consultation between M.D.'s and osteopaths be ethically permitted; and, (2) That osteopaths be authorized to enroll in postgraduate courses at the University of Oklahoma School of Medicine.

He presented a detailed analysis of both issues, then moved the adoption of his Council's recommendations that the OSMA continue to adhere to its Principles of Medical Ethics and go on record as disapproving postgraduate education (through the medical school) for persons other than graduate Doctors of Medicine. The Council on Public Policy's recommendations were sustained by the Delegates.

A Plea For Informed Action

Speaker of the House Marshall O. Hart, M.D., presented a plan for the solicitation, coordination and more business-like handling of resolutions to both OSMA and AMA.

According to Doctor Hart, the physicians of Oklahoma have given too little thought to the preparation and handling of resolutions which are intended to create association policy. He moved that the OSMA President appoint a committee of one from each county or district society, who will, in turn, keep himself and his local society well-informed regarding problems and activities of the state and national associations as well as with national affairs in general. He urged more active interest and response to the affairs of our nation. " . . . the first and most important role any of us play in life is citizenship," Doctor Hart said. "We are living in a time of rapid change and a hurried plunge toward a socialistic or welfare state of existence. If we are to exist as a free nation, a more active role must be played by organized medicine in political and public life. That role will be far more effective if it presents an informed front."

He further observed that the resolutions introduced and considered at the state meeting are of far more consequence than is commonly realized, because they transmit to the public and lawmakers the general philosophy of medicine toward vital problems in professional and community life.

Regarding the mechanics of improving the resolution system, Doctor Hart recommended that the president of each county society, each councilor, all delegates and alternates should consider what they think is a problem of sufficient size to justify a resolution. Copies of all resolutions should be at the OSMA Executive Office far enough in advance of the annual meeting to permit duplication and distribution to all delegates and alternates in advance of the meeting.

Other Actions

In other actions, the House of Delegates:

- Heard reports on the 1960 Annual Meeting of the American Medical Association, from Wilkie D. Hoover, M.D., Delegate, and R. Q. Goodwin, M.D., Alternate Delegate.

- Learned that the American Medical Association was unable to supply advance information on the policy matters to come up at its Clinical Session in Washington, D.C., November 28-December 1.

- Received, approved and fowarded to the AMA a resolution from the Washington-Nowata District Society which called for (1) the continued condemnation of a Social Security approach to financing health care for the aged, and (2) the encouragement of other states to follow Oklahoma's example in implementing the provisions of P.L. 86-778, the legislative measure which permits states to establish (with Federal financial assistance) and control medical care programs for persons over 65, both indigent and medically indigent. (Later approved by AMA, see next column.)

OB-GYN Exams in January

The American Board of Obstetrics and Gynecology will hold Part 1, written examinations, in various cities of the United States, Canada and military centers outside the continental United States on Friday, January 13, 1961.

Details are available from Robert L. Faulkner, M.D., American Board of Obstetrics and Gynecology, 2105 Adelbert Road, Cleveland 6, Ohio.

AMA Passes Oklahoma Resolution

Resolution No. 7 at the Clinical Meeting of the AMA, Washington, D.C., November 28-December 1, was authored by the Washington-Nowata District Society and approved by the OSMA Delegates on November 13, 1960.

After being modified in the reference committee, the resolution unanimously passed the House, receiving the applause of the Delegates.

Resolution No. 7

"*Whereas,* The physicians of the United States are concerned with safeguarding and improving the health of the American people; and

"*Whereas,* Compulsory national health insurance for the aged would lead to poorer, not better, health care; and

"*Whereas,* Legislation to bring about compulsory national health insurance even for a limited segment of our population, would be the beginning of the process which would ultimately place every American under a rigid, compulsory system of government controlled medicine; and

"*Whereas,* The medical profession which has helped make this one of the healthiest nations in the world's history, can maintain this high standard of care only under a system which allows it freedom to practice; and

"*Whereas,* Medicine controlled by the Federal Government under a compulsory system would result in inferior medical care, red tape and high costs; and

"*Whereas,* The Kerr-Mills bill (Title VI of Public Law 86-778), which is in accord with the policy of the A.M.A., can effectively meet the needs of those of our older citizens who really need help; therefore be it

"*Resolved,* that the House of Delegates reaffirm the Association's support of the Kerr-Mills bill and its opposition to any legislation involving the use of the OASDI mechanism for medical aid to the aged; and be it further

"*Resolved,* that all state and local medical associations cooperate with the appropriate state officials and provide leadership in implementing the provisions of the Kerr-Mills bill."

MEDICAL ASSISTANCE FOR THE AGED PROGRAM

Welfare Department Announces Plan for "Near-Needy"

As previously reported in the Journal (October, November issues), Congressional enactment of Public Law 86-778 made additional Federal matching funds available to bolster state welfare medical care programs. The two-pronged legislation increased the Federal matching share for welfare recipients, and also provided matching funds for state-operated medical care programs for those over 65 who are medically indigent, but not pensioners.

The Oklahoma State Department of Public Welfare launched an expanded program for welfare recipients on October 1st (reported in the October Journal). On October 18th, Oklahoma became the fourth state in the nation to take advantage of the second feature of P.L. 86-778, when the welfare department announced general plans for its Medical Assistance For the Aged Program (MAA).

MAA is budgeted for $6,105,000 the first year, $2,200,000 of which will come from state sales tax, the rest from Uncle Sam. Coupled with the welfare medical assistance program, the state's annual outlay for health care will now be approximately $26 million, as compared to $11 million spent last year.

Utilization of MAA is an unknown entity at present, but the welfare department estimates that about 15,000 persons will seek help the first year.

A summary of the salient features of MAA appears in the following paragraphs.

Basic Concepts

The Department considers that a medical care program for Medical Assistance for the Aged (MAA) should fulfill the following objectives: (1) Supplement the recipient's (patient's) resources to provide for the best possible medical and surgical care for eligible recipients (patients) within the limits of available funds; (2) Provide for the free choice of licensed medical or osteopathic physicians; (3) Provide payment on an equitable basis to vendors of medical care and services within the limits of available funds; (4) Conserve resources by omitting services now available to aged individuals through other sources, except in cases where by virtue of the heavy welfare case load it can be shown that assistance through this program will materially benefit the quality and availability of care to individuals eligible for Medical Assistance for the Aged; (5) Provide insofar as practicable the services of the Department's staff in helping the recipient (patient) in carrying out recommendations of his attending physician relating to his transfer from the hospital to another form of medical care or service that is within the scope of the Department's Medical Assistance for the Aged Program; and (6) Be sufficiently flexible to meet the changing needs in Medical Assistance for the Aged.

Eligibility Requirements

Age

An individual must be sixty-five years of age or over as determined by the patient's sworn affidavit.

Residence

An individual must be a resident of Oklahoma at the time he receives the medical care or services, for which he is requesting payment from the "Medical Assistance for the Aged Fund." Residence will be determined by the individual's sworn affidavit that he is a resident of Oklahoma.

Institutional Residence

An individual must not be an inmate of a public institution, except as a patient in a medical institution, and not an individual (a) who is a patient in an institution for tuberculosis or mental diseases, or (b) who has been diagnosed as having tuberculosis or psychosis and is a patient in a medical institution as a result thereof.

Recipient of Public Assistance

The individual *must not* be a recipient of public assistance. This will be determined by the individual's sworn affidavit and by a verification of the Department's Master File upon request for payment in the individual's behalf from the Medical Assistance for the Aged Fund.

Income

For a single person, income is exempt up to $924 annually, if he owns his home and is occupying it as such, and $1,188 if he rents (or is making payments on the home). For a man and wife, the exempt annual income is $1,560, if they own their home and occupy it as such, and $1,824 if they rent (or make payments on the home). Those persons whose annual income is in excess of these amounts are not eligible for payment for medical care or services from Medical Assistance for the Aged Fund. (Income is defined as wages, business profits, rental income, OASI, pensions, annuities, etc.)

Capital Resources

Home. The patient's equity in his home will be exempt up to $8,000. Any equity above this amount will be considered as a part of "Other Resources." If the patient and/or his spouse are not living in the home and have no feasible plans for returning to the home, the home is no longer considered an exemption.

Life Insurance. The cash, loan or surrender value of a patient's life insurance is exempt on the first $1,000 of face value of life insurance for a single person and the first $2,000 face value of insurance for a man and wife. The cash, loan or surrender value of life insurance policies held by patient and/or recipient's spouse will be considered on that part of the face value of a policy or policies in excess of the above enumerated exemptions. This excess will be considered as part of the "Other Resources." In the event, a patient and/or spouse have a combination of policies in excess of the above listed exemptions, the face value of the exemptions will be on the policy or policies which has the lesser cash value.

In the case of a single individual, the first $1,000 face value of life insurance of any policy or combination of policies will be exempt. In the case of a man and wife living together, the first $1,000 face value of their respective insurance policies will be exempt or in the event one spouse does not have insurance, the first $2,000 face value of the life insurance of the other spouse may be exempt.

Tools of Trade. A patient's equity in his tools with which he earns a living will be exempt up to $1,500. Any equity in tools of trade above this amount will be considered as a part of "Other Resources."

Small Business. A patient's equity in a small business which he operates is exempt up to $2,500. This includes the building, the ground on which it is located, equipment and invoice of stock. Any equity in the business above $2,500 will be considered a part of "Other Resources."

Other Resources

The maximum exemption of "Other Resources" is $700 for a single person and $1,000 for a man and wife. Other resources can be in the form of cash, stocks, bonds, notes, mortgages, cash value of life insurance (above exemptions), automobiles, or property of any kind, real or personal, which can be made available for the patient's and/or spouse's use. Also included in other resources are the amounts above the patient's and/or spouse's exemption in any one of the resources listed above.

In-Patient Medical Care and Services

General Hospital Care

For patients of Medical Assistance for the Aged, the compensable period for all inclusive hospital care is limited to a maximum of *twenty-one days for a single admission.*

The patient must have been hospitalized for the treatment of a life-endangering or sight-endangering condition as determined by the attending medical or osteopathic physician. Recognized evidence of this determination is the attending medical or osteopathic physician's signed statement that hospitalization for the patient was requested by him and in his judgment was for the treatment of a life-endangering or sight-endangering condition (Recommended Form MAA-1).

Procedure

When the individual enters a licensed general hospital and requests payment on his behalf from the Medical Assistance for the Aged Fund, he should execute a sworn affidavit which is to notify the Department of Public Welfare that he is in need of medical care and that he meets the eligibility requirements of age, residence, and institutional residence. If either the hospital or physician plans to bill the Department in behalf of the

patient for care or services rendered, the physician should complete Form MAA-1, Physician's Statement, certifying that the individual was hospitalized for a life-endangering or sight-endangering illness.

An exception to the above general rule may be made if payment for medical care or services on behalf of the aged individual is made by other than the individual who was unable to execute an affidavit at the time of his admission to the hospital. The date of the oral request to the physician or the admitting officer of the hospital will be considered as the effective date of request for payment in behalf of the patient providing the Physician's Statement, MAA-1 is dated the same date that the oral request was made. This is contingent upon the hospital, the individual, his guardian, or person acting in his behalf following through with the execution of the required affidavit, MAA-2, and the completion of the Resource Sheet, MAA-3, which are filed with the State Department of Public Welfare, Capitol Office Building, Oklahoma City where eligibility will be determined by the medical and social work staff of the Medical Vendor Control Unit. These forms should be submitted according to agency instructions, and must be transmitted to the department on or before date of discharge or death.

The hospital staff is expected to assist the individual in completing the Resource Sheet, Form MAA-3, which is the patient's statement of his resources. The applying individual is responsible for listing all of his assets and liabilities. The hospital will use Form Adm-26, to bill the Department for services rendered and compensable through the Medical Assistance for the Aged program.

Re-admission to a licensed general hospital under the Medical Assistance for the Aged Program within ten days of date of discharge from any previous admission under the Medical Assistance for the Aged Program will be compensable only if such care is needed for a new acute life-endangering illness or for an acute exacerbation of a previous illness. *Any request for payment in behalf of a patient re-admitted within ten days of the last date of previous discharge shall be accompanied by a medical report of the patient's attending physician certifying to the physical condition of the patient, his medical needs, and the attending physician's reason for re-admission.* The request for payment in the patient's behalf will be reviewed in the State Office and if such request is compensable in the opinion of the Department's Medical Staff, and if funds are available for payment, notification of compensability will be issued by the Department's State Office to the general hospital and the patient's attending physician. If, in the opinion of the Department's Medical Staff, payment cannot be made under the Department's regulations, the vendor will be notified within seventy-two hours from the date of receipt of such request that the request for payment in behalf of the patient is being referred to the Department's Medical Advisory Committee for consideration and recommendation at its next regular meeting.

Consideration cannot be given to any request for payment in behalf of a patient re-admitted within ten days of the date of previous discharge unless vendors certify to the State Department of Public Welfare that the patient has been discharged and physically removed from the hospital following the previous date of compensable hospitalization.

Licensed Medical and Osteopathic Physicians

Payment to licensed medical and osteopathic physicians in behalf of the patient will be at the *rate of $5.00 a day for not more than fifteen days* of any twenty-one day compensable admission, in a licensed general hospital, when the patient was admitted for medical care within the scope of the program. Payment for surgeons, anesthetists, pathologists and radiologists (for therapeutic radiology for malignant diseases) will be at *seventy-five per cent of the Commission's recognized rate as set forth in the Physician's Manual and Appendix M-1.* Assistant surgeons will be paid at the rate of ten per cent of the recognized surgical fee.

The physicians will use Form Adm-27 to bill the Department for services rendered and compensable under the Medical Assistance for the Aged Program.

If the patient is re-admitted to a licensed general hospital any time within ten days

of date of discharge from any previous admission, the licensed medical or osteopathic physician may be compensated at the rate of $5.00 per day not to exceed fifteen days, only if such care is needed for a new acute life-endangering or sight-endangering illness or an acute life-endangering or sight-endangering exacerbation of a previous illness.

Out-Patient Care and Services

Therapeutic Radiology

Payment will be made to licensed medical and osteopathic physicians for out-patient therapeutic radiology for malignant diseases, *when such therapy has been prescribed while the patient has been hospitalized.* Payment for therapeutic radiology will be at the rate of *seventy-five per cent of the Commission's recognized rate* as set forth in the Physician's Manual and Appendix M-1. Form Adm-27 will be used to bill for such treatment.

Diagnostic Services

For the purpose of determining need of nursing care and physician's services in an individual's own home, *$5.00 will be paid the attending medical or osteopathic physician for a diagnostic examination and physician's report* on Form ABCDM-80. Form Adm-27 will be used to bill for such examination.

Home Visits

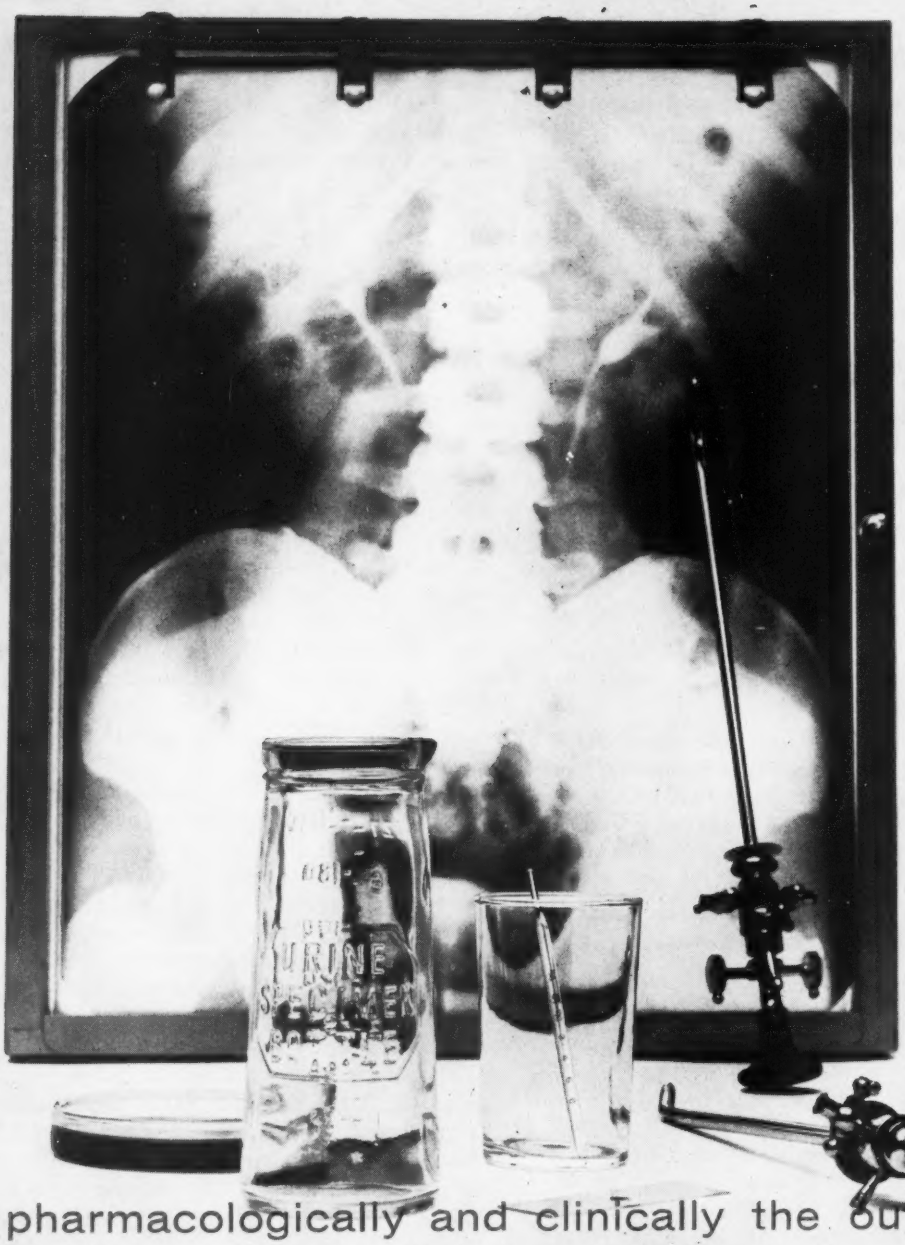
Payment will be made to licensed medical and osteopathic physicians for professional services rendered to persons who have been approved for nursing care in their own homes. Payment will be at the *rate of $5.00 per home visit with a maximum of two home visits a month* during the period approved for nursing care in the patient's own home. The physician will use Form Adm-27 for billing the Department for such services.

Home Nursing Care

Payment for nursing service in the eligible individual's own home may be made in behalf of such person, only to persons who perform such service to the public for hire and if the service is primarily concerned with the care and attendance of the patient. Nursing service will consist of personal care and hygiene, preparation and giving of food, giving medication and other treatment *prescribed and supervised by a licensed medical or osteopathic physician,* and such other special needs as are ordered by the physician. Such service is provided only for bedfast or chairfast patients and when continuing service is required which could not be made available in the immediate family.

Requests for nursing services to be performed in the aged individual's own home will be made to the County Department of Public Welfare in the county of the person's residence. The County Department of Public Welfare will assist the individual or person making application in his behalf in completing Forms MAA-2 and MAA-3, and will complete Form ABCDM-82. If, in the opinion of the County Director, the person appears to be financially eligible for payment in his behalf from the Medical Assistance for the Aged Fund, the county will authorize, on Form BCD-16, the individual's attending medical or osteopathic physician to do a diagnostic examination and physician's report on Form ABCDM-80. Upon receipt of the Form ABCDM-80, in the County Office, this form, together with Forms MAA-2, MAA-3 and ABCDM-82, will be transmitted to the State Office, Medical Vendor Control Unit, where eligibility for nursing care will be determined by the social work staff. The Medical Review Team, composed of a physician and medical social worker, will be responsible for making the determination on need for nursing care. After making a decision on the request for nursing care, the Medical Review Team will notify the County Department, the individual and his attending physician, on Form MAA-4, as to whether or not payment for nursing care can be provided from the Medical Assistance for the Aged Fund. Payment for nursing care in the individual's own home may not be authorized for more than one hundred-eighty days in any twelve month period.

Payment to the person rendering nursing service in the patient's own home is $2.00 per day for one patient and $1.00 per day for each additional patient when there are others in the household who are receiving nursing services through the Department's Medical Care Program. Registered Nurses and Licensed Practical Nurses may bill the Department for nursing services rendered to no more than four patients per day. Those persons giving nursing care, who are neither



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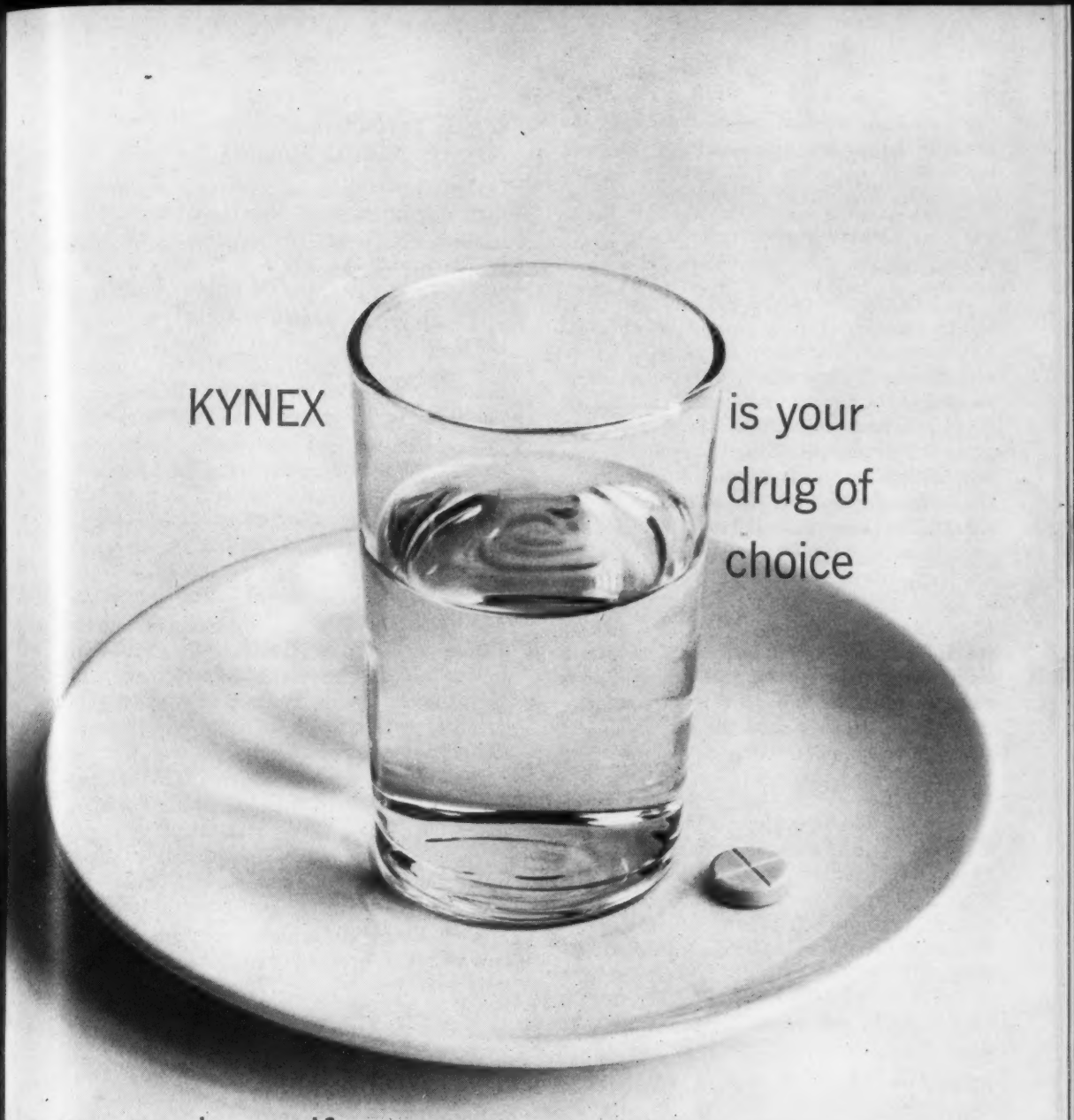
High free levels — for dependable control — More efficient absorption delivers a higher percentage of sulfamethoxypyridazine — averaging 20 per cent greater at respective peaks than glucuronide-conversion sulfas.[2] Of the total circulating levels, 95 per cent remains in the fully active, unconjugated form even after 24 hours.[3]

Extremely low toxicity[4] . . . only 2.7 per cent incidence in recommended dosage — Typical of KYNEX relative safety, toxicity studies[5] in 223 patients showed **TOTAL** side effects (both subjective and objective) in only six cases, all temporary and rapidly reversed. Another evaluation[4] in 110 patients confirmed the near-absence of reactions when given at the recommended dosage. High solubility of both free and conjugated product[6] obviates renal complications. No crystalluria has been reported.

Successful against these organisms: streptococci, staphylococci, E. coli, A. aerogenes, paracolon bacillus, Gram-negative rods, pneumococci, diphtheroids, Gram-positive cocci and others.

1. Boger, W. P.; Strickland, C. S., and Gylfe, J. M.: Antibiotic Med. & Clin. Ther. 3:378, (Nov.) 1956. 2. Boger, W. P.: Antibiotics Annual 1958-1959, New York, Medical Encyclopedia, Inc., 1959, p. 48. 3. Sheth, U. K.; Kulkarni, B. S., and Kamath, P. G.: Antibiotic Med. & Clin. Ther. 5:604 (Oct.) 1958. 4. Vinnicombe, J.: Ibid. 5:474 (July) 1958. 5. Anderson, P. C., and Wissinger, H. A.: U. S. Armed Forces M. J. 10:1051 (Sept.) 1959. 6. Roepke, R. R.; Maren, T. H., and Mayer, E.: Ann. New York Acad. Sc. 60:457 (Oct.) 1957.



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NOTE: Investigators note a tendency of some patients to misinterpret dosage instructions and take KYNEX on the familiar q.i.d. schedule. Since one KYNEX tablet is equivalent to eight to twelve tablets of other sulfas, even moderate overdosage may produce side effects. Thus, the single dose schedule must be stressed to the patient.

KYNEX Tablets, 0.5 Gm., bottles of 24 and 100. Dosage: Adults, 0.5 Gm. (1 tablet) daily, following an initial first day dose of 1 Gm. (2 tablets).

KYNEX Acetyl Pediatric Suspension, cherry-flavored, 250 mg. sulfamethoxypyridazine activity per teaspoonful (5 cc.). Bottles of 4 and 16 fl. oz. Recommended Dosage: Children under 80 lbs.: 1 teaspoonful (250 mg.) for each 20 lb. body weight, the first day, and ½ teaspoonful per 20 lb. per day thereafter. For children 80 lbs. and over: 4 teaspoonfuls (1.0 Gm.) initially and 2 teaspoonfuls daily thereafter. Give immediately after a meal.

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NEW—for acute G.U. infection AZO-KYNEX® Phenylazodiaminopyridine HCl—Sulfamethoxypyridazine Tablets, contains 125 mg. KYNEX in the shell with 150 mg. phenylazodiaminopyridine HCl in the core. Dosage: 2 tablets q.i.d. the first day; 1 tablet q.i.d. thereafter.

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registered nor licensed practical nurses, may bill the Department for nursing services rendered to no more than two households and not to exceed four persons daily.

Miscellaneous Provisions

Transportation

Ambulance companies may be paid for the transportation of a patient between his own home or scene of an accident to a general hospital when such transportation is necessary for the admission of a patient or when necessary to remove a patient from a general hospital, providing his period of hospitalization was compensable through the Department's Medical Assistance for the Aged Program. The recognized rate for such transportation is forty cents per mile, one way, however, based on the availability of funds, payment will be made at the rate of twenty-five cents one way with a pick-up fee of $2.00 when the distance is less than thirty-five miles. In no instance will payment be made to a vendor for transportation of a patient within the city limits of the patient's residence.

Blood Banks

Payment will be made to a blood bank for blood given in a general hospital when the blood bank is entirely separate from the hospital and when the cost of procuring and processing the blood is not included in the computed per diem rate of the hospital. Payment will be at the rate of $15.00 per pint and will be made only after blood has not been replaced for the patient within ninety days of date of administering of such blood.

Dentists

Payment will be made to dentists or oral surgeons for services performed in a licensed general hospital when a patient is admitted for life-endangering conditions involving fractures, infections or tumors of the mouth. The dentist will bill the Department on Adm-27, not later than sixty days after the service chargeable to the Medical Assistance for the Aged Fund has been rendered.

Medical Care Outside the State

Payment may be made for Oklahomans who are outside the State on visits. Forms and instructions should be requested from the D.P.W. by mail.

Plans Formulated For OSMA Annual Meeting

Many interesting innovations are planned for the 55th Annual Meeting of the Oklahoma State Medical Association to be held in Tulsa, May 7-9, 1961.

The three-day convention will open on a Sunday and conclude on Tuesday, instead of the usual Monday through Wednesday dates. The change will permit most doctors to spend most of Wednesday in their office, thus saving a day of valuable professional time.

Scientific sessions will open at 10:00 a.m. on Sunday, May 7, and conclude at 5:00 p.m. on Tuesday, May 9.

A change in the social program of the Annual Meeting will see the President's Inaugural Dinner Dance split into two separate events. On Monday evening, May 8, doctors and wives will attend a President's Inaugural Dinner at Southern Hills Country Club. Following a social hour and dinner, there will be inaugural ceremonies and an unusual program of entertainment. There will be incidental dinner music.

On Tuesday evening, May 9, a delightful dancing party will be held in the Crystal Ballroom of The Mayo with music by a nationally known dance and recording band. Intermission entertainment will include a floor show with prominent entertainers.

The change will provide convention visitors with two evenings of outstanding entertainment.

Specialty groups will meet on Sunday, May 7, with many of the sessions and social events open to all doctors in attendance.

The annual golf tournament will also follow a new format. Doctors may golf at their convenience on either Monday or Tuesday, May 8-9. Prizes will be awarded at the Tuesday evening dance. The tournament will be at the beautiful Oaks Country Club of Tulsa.

The scientific program will feature presentations by twelve visiting distinguished guest speakers, medical motion pictures, symposia and roundtable luncheons. A symposium on the economics of medicine will include Doctor F. J. L. Blasingame, Executive Vice-President of the American Medical Association, Chicago, Illinois, as a participant.

Commercial and scientific exhibits will be on display in The Mayo, site of the 1961 Annual Meeting. The Doctors Hobby Show, a popular feature sponsored by the Auxiliary to the Oklahoma State Medical Association, will be repeated.

The annual meeting of the House of Delegates is scheduled for 10:00 a.m. on Sunday, May 7, 1961, in the Pompeian Court of The Mayo. The Council will meet on Saturday, May 6, at a time to be announced later.

Doctor C. S. Lewis, Jr., Tulsa internist, is serving as General Chairman of the 55th Annual Meeting, with Doctor Donald L. Brawner as Program Chairman. Other committee members include Doctor Robert Jabour, Doctor E. Malcolm Stokes, Doctor Byron L. Bailey and Doctor James W. Kelley. Arrangements are being handled by the Tulsa County Medical Society.

Speakers Named for Oklahoma Chapter of AAGP

Oklahoma City's Biltmore Hotel will be the site of the Thirteenth Annual Meeting of the Oklahoma Chapter of the American Academy of General Practice on February 6-7, 1961.

According to Howard P. Mauldin, M.D., Oklahoma City co-ordinator for the scientific program, seven guest lecturers have been secured for the two-day meeting.

Covering a wide field of scientific interest will be: Calvin J. Dillaha, M.D., Little Rock, Arkansas, Dermatology; Elmer Belt, M.D., Los Angeles, California, Urology; T. A. Watters, M.D., New Orleans, Louisiana, Psychiatry; John DeVore, M.D., Oklahoma City, Geriatrics; W. D. Paul, M.D., Iowa City, Iowa, Orthopedics; Joseph T. Ichter, M.D., Doylestown, Pennsylvania, Pediatrics; and, John T. Reynolds, M.D., Chicago, Illinois, Surgery.

Special entertainment is being planned for the ladies and will be outlined in the January issue of *The Journal* when a complete program of the meeting will be listed.

M.D.'s Urged to Submit Papers for Annual Meeting

Oklahoma doctors are invited to submit scientific papers for scheduling on the program of the 55th Annual Meeting of the Oklahoma State Medical Association in Tulsa, May 7-9, 1961, it was announced last month by Doctor Donald L. Brawner, Program Chairman.

Members of the Association should submit a brief summary of the proposed paper and the exact title. This information should be mailed to: Donald L. Brawner, M.D., Program Chairman, Oklahoma State Medical Association, Convention Headquarters, B9 Medical Arts Building, Tulsa.

In accordance with the By-Laws of the Association, papers by members are limited to 20 minutes in length.

The Program Committee will accept those which offer a maximum value to the practicing physician, Doctor Brawner said. He noted that time limitations might necessitate the rejection of some of the papers submitted. Doctors will be advised of the disposition of their application.

Oklahoma doctors are also requested to prepare scientific exhibits for display at the three-day convention. Case studies (particularly those of a bizarre nature), scientific discussions, displays of films, x-rays, drawings and clinical material are desired. There is no charge for the space, but exhibitors will be expected to prepare and install exhibits at their own expense.

Interested physicians, as well as interested medical organizations, may request an application for scientific exhibit space by writing: Doctor Byron L. Bailey, Exhibits Chairman, Oklahoma State Medical Association, B9 Medical Arts Building, Tulsa. Complete details will be forwarded promptly.

Annual Meeting Resolutions

County medical societies are urged to discuss possible resolutions for the state meeting at their January, February and March meetings. Approved resolutions must reach the OSMA executive offices no later than April 1, 1961.

Shown standing (left to right) J. D. McCarty, Speaker of the Oklahoma House of Representatives; Major General Lewis L. Mundell, TAFB, Oklahoma City; Lt. Governor George Nigh, McAlester; John H. Seeton, Secretary Manager of the Pennsylvania Manufacturer's Association, Philadelphia; Roy Tillman, President of the Oklahoma State AFL-CIO; Charles Richmond, Chaplain, 45th Infantry Division, Oklahoma City; Joe B. Hunt, State Insurance Commissioner; and, Walter E. Brown, M.D., President of the Oklahoma State Medical Association. Seated (left to right) Charles F. Feike, President of the National Rehabilitation Association, Salem, Oregon; Theodore D. Wheaton, President of the Oklahoma Rehabilitation Association; William P. McCahill, Executive Secretary of the President's Committee on Employment of the Physically Handicapped, Washington, D.C.; E. J. "Chuck" O'Conner, Executive Vice-President of the Associated Industries of Oklahoma; and, Enar B. Olson, Superintendent of the Federal Aviation Agency School, Oklahoma City.

Oklahoma Hosts National Rehab Conference

More than 1600 attended the National Rehabilitation Conference in Oklahoma City, October 10-12, 1960. The world's largest rehabilitation meeting brought together both professional people and laymen who are interested in the health, education and welfare of less fortunate citizens.

Senator A. S. (Mike) Monroney and Daniel Blain, M.D., Director of Mental Hygiene, California Department of Mental Health, were keynote speakers at the opening session.

Employers Luncheon

One of the highlights of the first day was the Employers Luncheon, sponsored by Associated Industries of Oklahoma. More than 450 were on hand to hear John H. Seeton of the Pennsylvania Manufacturer's Association discuss "Industry Favors Employment of the Handicapped."

Representing the Oklahoma State Medical Association at the luncheon were, Walter E. Brown, M.D., President, Dick Graham, Executive Secretary, and Don Blair, Associate Executive Secretary.

Program Highlights

The afternoon session of the first day was devoted to panel discussions. A group of national employers discussed "Getting Over the Hurdles At the Hiring Level." Among the participants was Kieffer Davis, M.D., Medical Director of the Phillips Petroleum Company, who spoke on "Realistic Appraisals of the Medical Aspects."

Another interesting session took place on Wednesday when panel discussions were held on the following subjects: "Pre-Vocational Evaluation: An Assessment of Current Techniques;" "Communications in Rehabilitation;" "Executive Leadership and Its Responsibility;" and "Habilitation of the Mentally Retarded, Past, Present, and Future."

OSMA Exhibit

Among the exhibits was one sponsored by the state medical association, entitled "The Physician's Role in Rehabilitation."

GP of Year Honored By School Boards

Chesley M. Martin, M.D., the American Medical Association's 1960 General Practitioner of the Year from Elgin, Oklahoma, was honored on November 17 when the Oklahoma School Boards Association presented a plaque to him commemorating his 42 years of service as Chairman of Elgin's school board.

In presenting the award, J. G. Stratton, Clinton, past-president of the National School Boards Association, observed that although there are many people over the country who had served their school boards nearly a half century, he knew of no one with a longer record as chairman than Doctor Martin.

Doctor Martin's interest in education was an important factor in his receipt of the AMA award at the 1960 Clinical Session of the AMA held last December in Dallas.

In addition to routine school board duties, he also serves as school physician and as the inspirational leader of the local FFA group, one of the state's strongest chapters. He was responsible for the construction of an FFA barn on school property, and in 1949, he designed and supervised the con-

J. G. Stratton, Clinton, left, is shown presenting School Board plaque to Doctor Martin.

Doctor Lain Receives Southern Medical Award

Everett S. Lain, M.D., pioneer Oklahoma dermatologist and President of the Oklahoma State Medical Association in 1924-25, won the distinguished service award of the Southern Medical Association at the group's annual meeting in St. Louis early in November.

Doctor Lain served as Chairman of the committee which organized the Dermatological Section of the association in 1922 and later served as chairman and secretary of the section.

Winning awards is by no means a new field for Doctor Lain, who retired from active practice in 1954. In 1958, he received the professor emeritus of the year award from the University of Oklahoma School of Medicine Alumni Association. In 1933, the American Medical Association presented him with a certificate of honor for research in disorders of the mouth.

Doctor Lain was a lecturer in dermatology at Epworth Medical College in 1908 and a member of the faculty of the OU school on its foundation in 1910. He has served as head of the department of dermatology and radiology at the school and in addition was instrumental in bringing radium treatment to the state.

A member of the national board of the American Cancer Society from 1921 to 1936, Doctor Lain helped to organize the Oklahoma division of the society.

Three Hundred Attend Student Banquet

The OSMA's Annual Fall Banquet for the Student American Medical Association, held November 18th in Oklahoma City, was attended by a group of three hundred, representing members of the SAMA chapter, their wives, officers and councilors of the OSMA, preceptors and school officials.

According to Walter E. Brown, M.D., President of the OSMA, the dinner not only represents the highlight of the students' organizational year, but also presents organized medicine with an excellent opportunity to establish rapport with its future colleagues, thus indirectly enhancing the ability of medicine to meet future socio-economic responsibilities and problems.

In his welcoming statement, Doctor Brown admitted to the secondary motivation behind the association's sponsorship of the dinner. "We confess to a selfish motive in sponsoring this event," he said, "for through the liaison begun here tonight the physicians of Oklahoma hope to assure the continued advancement of medical science in a free society. We also hope you will stay in Oklahoma and become active members of the Oklahoma State Medical Association."

Doctor Brown also made a presentation to Dean Mark Everett, who was on hand to represent the school. The Dean was given a new pipe, ostensibly from the "Pipes For Mark Everett Club."

Nonsequitures

Principal speaker of the evening was William B. Bean, M.D., whose talk was entitled, "A Bundle of Nonsequitures." Doctor Bean is Professor of Medicine and Head of the Department of Medicine at the State University of Iowa. In addition to this extremely amusing and educational talk on the malfortunes of misunderstanding, Doctor Bean had previously delivered the 1960 AOA Lecture at the medical school.

President of the Oklahoma Chapter of the Student AMA is Rex Baggett, third year student. Ron White and Sam Hamra are Vice-President and Secretary-Treasurer, respectively.

Coming Meetings

1960

DECEMBER

UNIVERSITY OF OKLAHOMA MEDICAL CENTER POSTGRADUATE SHORT COURSE, Anesthesia in General Practice. Dec. 14. Medical school auditorium. Write Postgraduate Education, University of Oklahoma School of Medicine, 801 N.E. 13th, Okla. City, Okla.

UNIVERSITY OF OKLAHOMA POSTGRADUATE COURSE, Consultations on Problems in Practice. Dec. 15, 16, 17. Write Postgraduate Education, University of Oklahoma School of Medicine, 801 N.E. 13th, Okla. City, Okla.

AMERICAN ACADEMY OF DERMATOLOGY AND SYPHILOLOGY, Palmer House, Chicago, Dec. 3-8. Robert R. Kierland, M.D., First National Bank Bldg., Rochester, Minn., Secretary-Treasurer.

1961

JANUARY

AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS, Hotel Americana, Bal Harbour, Miami Beach, Fla., Jan. 8-13. Mr. John K. Hart, 116 S. Michigan Ave., Chicago, 3, Executive Secretary.

AMERICAN CANCER SOCIETY, ARIZONA DIVISION, 9th Annual Cancer Seminar, Jan. 12, 13, 14. Tidelands Motor Inn, Tucson, Arizona. Write American Cancer Society, 37 East Jackson St., Tucson, Arizona.

AMERICAN COLLEGE OF PHYSICIANS, Recent Advances in Drug Therapy, Jan. 9-13. University of Washington School of Medicine, Seattle, Washington. Write The American College of Physicians, 4200 Pine St., Philadelphia 4, Pa.

AMERICAN COLLEGE OF PHYSICIANS, Mechanisms of Disease, Jan. 16-20, Columbia University College of Physicians and Surgeons, New York City. Write The American College of Physicians, 4200 Pine St., Philadelphia 4, Pa.

AMERICAN COLLEGE OF SURGEONS, SECTIONAL MEETING, Hotel Dinkler-Tutwiler, Birmingham, Ala., Jan. 16-18. William E. Adams, M.D., Am. Coll. of Surgeons, 40 E. Erie St., Chicago 11, Secretary.

UNIVERSITY OF OKLAHOMA MEDICAL CENTER POSTGRADUATE SHORT COURSE, Pediatric Radiology, Jan. 11, Medical school auditorium. Write Postgraduate Education, University of Oklahoma School of Medicine, 801 N.E. 13th, Okla. City, Okla.

FEBRUARY

AMERICAN ACADEMY OF ALLERGY, Statler-Hilton Hotel, Washington, D.C., Feb. 6-8. Mr. James O. Kelley, 756 N. Milwaukee St., Milwaukee 2, Wis., Executive Secretary.

AMERICAN COLLEGE OF PHYSICIANS, Selected Topics in Internal Medicine, Feb. 20-24, University of Oklahoma School of Medicine, Okla. City. Write to The American College of Physicians, 4200 Pine St., Philadelphia 4, Pa.

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Book Reviews

French's Index of Differential Diagnosis, Edited by Arthur Douthwaite, M.D., F.R.C.P., Eighth Edition, The Williams and Wilkins Co., Baltimore, 1960, pp. 1111, price $24.00.

This time honored text book of "Index of Differential Diagnosis" was first offered to physicians in March 1912 and in the interim has gone through eight separate editions. This present eighth edition is again printed in Great Britain and is edited by Arthur H. Douthwaite, M.D., F.R.C.P., senior physician at Guy's Hospital. Doctor French died in 1951.

The book binding seems to leave a little to be desired in the matter of ruggedness. The binder and cover are attractively done but with the long rough life expected for a book of this sort, it would appear that a little more reinforcement could have been added.

Physicians familiar with the old French editions will again note the absence of a Table of Contents, made up for by an elaborate index at the back of the book which extends some 140 pages, with small, closely spaced type. The indexing system is unique and allows ready reference to most any subject desired in the text.

As Doctor French stated in the preface to the first edition in 1912, "The guiding principle throughout has been to suppose that a particular symptom attracts special notice in a given case and the diagnosis has to be established by differentiating between the various diseases to which this symptom may be due."

It is readily apparent that the new edition of French has been enhanced by liberal use of color photography. Throughout the book color photographs of various clinical entities are used with good effect, although the English color reproduction techniques do seem to leave a little to be desired when compared with the striking color illustrations seen in modern day American text books. It also seems regrettable that in a work of this sort the reproductions of x-rays cannot be presented as direct copies instead of the reverse negatives which are exhibited.

The book is fascinating for casual perusal. It is intended only as a quick reference book in clinical diagnosis and makes no pretense at the detailed scholarly and investigative approach. There is not even a bibliography listed for stimulating further reading. However, the physical findings and clinical signs of significance to a physician are recorded in abundant detail for every clinical entity recognized in Great Britain today. To any physician familiar with this revered work of Doctor French, this new edition is highly recommended. To those not familiar with the workings of the text and its British phraseology, a more guarded recommendation, after inspection of the book, is offered.

If ever there was a practical book for speedy consultation, the new edition of Doctor French's "Index to Differential Diagnosis" is that book.—*Walter E. Brown, M.D.*

Review of Medical Microbiology, Ernest Jawetz, Ph.D., M.D., Joseph L. Melnick, Ph.D. and Edward A. Adelberg, Ph.D., Lange Medical Publications, 1960, Los Altos, California, pp. 376, Price, $5.00.

This is the fourth edition of this book written by three professors of microbiology from the University of California and Baylor University. The book is very well written and concise, and in my opinion would fulfill two major areas of need in microbiology: (1) it would be an excellent book for a person wishing to review the entire field of microbiology rapidly, especially if details of methodology are unimportant and (2) it may well serve as a ready reference for the practicing physician. This second type usage is possible because of the manner in which the book is written. Each organism is described briefly under such headings as Morphology, Culture, Growth Characteristics, Antigenic Structure, Pathogenesis and Pathology, Clinical Findings, Diagnostic Laboratory Tests and Treatment. Antibiotic sen-

(Continued on Page 871)

BLUE CROSS UTILIZATION PERCENTAGES*

Year, 1959 Compared to First Nine Months, 1960

County	1959	1960	% Change
Adair	86.4%	153.2%	+66.8
Alfalfa	111.1	110.0	—1.1
Atoka	110.9	114.4	+3.5
Beaver	84.7	96.8	+12.1
Beckham	95.8	93.9	—1.9
Blaine	114.6	123.4	+8.8
Bryan	84.4	111.3	+26.9
Caddo	93.3	94.7	+1.4
Canadian	90.6	83.9	—6.7
Carter	83.3	91.1	+7.8
Cherokee	92.5	105.4	+12.9
Choctaw	121.3	133.3	+12.0
Cimarron	153.3	139.0	—14.3
Cleveland	91.1	118.0	+26.9
Coal	106.1	116.5	+10.4
Comanche	94.5	116.6	+22.1
Cotton	90.5	83.0	—7.5
Craig	100.5	108.0	+7.5
Creek	136.3	134.4	—1.9
Custer	79.7	111.7	+32.0
Delaware	106.0	95.9	—10.1
Dewey	87.9	107.8	+19.9
Ellis	84.8	83.9	—.9
Garfield	129.1	146.4	+17.3
Garvin	85.2	82.7	—2.5
Grady	72.4	97.5	+25.1
Grant	144.1	163.1	+19.0
Greer	72.3	95.9	+23.6
Harmon	90.2	122.5	+32.3
Harper	87.2	79.7	—7.5
Haskell	105.3	110.6	+5.3
Hughes	96.2	75.2	—21.0
Jackson	86.6	112.0	+25.4
Jefferson	151.6	132.0	—19.6
Johnston	72.3	63.0	—9.3
Kay	94.2	109.3	+15.1
Kingfisher	78.1	86.6	+8.5
Kiowa	89.2	80.2	—9.0
Latimer	103.3	117.0	+13.7
LeFlore	89.7%	105.5%	+15.8
Lincoln	117.9	111.5	—6.4
Logan	64.3	84.9	+20.6
Love	80.1	76.6	—3.5
McClain	97.6	81.8	—15.8
McCurtain	123.2	125.6	+2.4
McIntosh	92.3	144.4	+52.1
Major	101.4	128.2	+26.8
Marshall	81.3	119.1	+37.8
Mayes	85.4	99.1	+13.7
Murray	96.1	98.8	+2.7
Muskogee	90.2	112.9	+22.7
Noble	109.3	122.4	+13.1
Nowata	124.3	119.0	—5.3
Okfuskee	86.2	130.9	+44.7
Oklahoma	80.9	96.1	+15.2
Okmulgee	125.0	104.7	—20.3
Osage	121.2	112.9	—8.3
Ottawa	96.3	102.4	+6.1
Pawnee	117.9	141.4	+23.5
Payne	92.0	99.5	+7.5
Pittsburg	102.7	113.2	+10.5
Pontotoc	115.2	106.1	—9.1
Pottawatomie	87.4	90.9	+3.5
Pushmataha	116.4	146.4	+30.0
Roger Mills	110.1	112.9	+2.8
Rogers	99.8	127.0	+27.2
Seminole	77.3	97.9	+20.6
Sequoyah	125.9	117.4	—8.5
Stephens	101.4	101.3	—.1
Texas	108.4	138.7	+30.3
Tillman	103.4	91.5	—11.9
Tulsa	111.5	109.1	—2.4
Wagoner	85.2	104.1	+18.9
Washington	107.9	124.9	+17.0
Washita	79.9	124.2	+44.3
Woods	104.9	129.5	+24.6
Woodward	100.6	120.6	+20.0
Average	99.6	110.0	+10.4

*Utilization is on a paid basis and does not includes reserves or operating expenses.

Released by the Committee on Prepaid Medical Care for the Information and Education of OSMA Members.

Auxiliary News

Christmas Is Serving

Christmas is not just a time of year. It is a celebration and a recognition of a way of life. Christmas and the coming of the New Year afford us singular opportunity: service in every area, personal, church and organizational.

Mrs. John Wagner, National Chairman of our Community Service Committee, defines our work as: " . . . a unique service program designed for auxiliary members to help physicians in their effort to protect and improve the health of the people in the community." Foremost, we are urged to guide our membership into discovering definite needs of the community—not to duplicate existing services already covered by other groups. Then we are to obtain approval, and also to follow any recommendations, from our county medical societies. Finally, we must consider the interests of our own auxiliary members in each project or undertaking.

Excellent public relations (the former name of Community Service) can result from inviting service groups in each area to a meeting planned especially for them. Some auxiliaries give an annual award to a woman who has performed outstanding service in the field of health in the community. Some states and counties honor doctors' wives who are leaders in health or civic organizations. Why not discuss these possibilities at your next board or general meeting? Except for personal endeavor, no contribution to community service is more important than those we undertake as auxiliary projects. Be sure to keep our State Community Service Chairman informed about your projects and your progress. She is: Mrs. Tom C. Sparks, 627 Stanley, Ardmore.

Christmas Is Greeting

We wish to extend our warmest greetings of the season to WA-SAMA, the Woman's Auxiliary to the Student American Medical Association. In a few months SAMA will begin its fourth year as an organization. Never has a group shown more interest or enthusiasm than these young women, already seriously on their way to promoting the futures of their doctor husbands.

Christmas Is Remembering

In line with "future" doctors and the Christmas season, we should like to remind you that there is no more appropriate or acceptable Christmas gift, appreciation, or memorial, than contributions to A.M.E.F. It is not too late—it is always a timely thought. Just send your checks, together with the names and addresses of the recipients, together with your own name and address to your local chairman. In the event you have no county chairman, send them direct to our State A.M.E.F. Chairman: Mrs. F. H. McGregor, 928 N.E. 15th, Oklahoma City.

Some newer members may not know that our American Medical Education Foundation contributions can be ear-marked for our own University of Oklahoma School of Medicine. Most of us think of our money as helping only with salaries of instructors. True, a large portion is used toward teaching; but in addition, funds are also directed to the following sources: equipment, general operation, student aid, research, contingency fund, medical libraries, and building funds. Think of the pride your doctor will feel in knowing you "cared enough to give the best" —the American Medical Education Foundation.

Christmas Is Giving

Too often we evaluate our many contributions only on a local scale, failing to realize what a magnified picture the total presents. During the October Fall Conference held in Chicago Leonard W. Larson, M.D., President-Elect of the American Medical Association, made the following significant observations: "During 1959, for example, you contributed 3,108,314 hours of volunteer and philanthropic service to your communities. This impressive amount of time is equal to

(Continued on Page 871)

Deaths

HAROLD A. SHOEMAKER, Ph.D.
1896-1960

Harold A. Shoemaker, Ph.D., founder and first director of the poison information center at the University of Oklahoma School of Medicine, died November 2, 1960.

A native of New Ringgold, Pennsylvania, Doctor Shoemaker received degrees from Valparaiso University and the University of Washington before obtaining his Ph.D. from Yale in 1931.

Associated with the University of Oklahoma School of Medicine since 1920, he was professor of pharmacology and toxicology, had served as vice-chairman of the department of pharmacology since 1953 and, in addition, was a former assistant dean and acting dean of the school.

In 1956, he organized the poison information center. It was among the first ten in the nation and the first to operate on a statewide basis.

Doctor Shoemaker was a member of the American Pharmaceutical Association, had served on the executive committee of the American Association of Poison Control Centers and as chairman of the association's committee on publications and technical information.

JOHN L. DAY, M.D.
1877-1960

John L. Day, M.D., 83-year-old physician, died in Woodward, October 18, 1960.

Born in Webster City, Iowa, Doctor Day graduated from the College of Physicians and Surgeons in Memphis in 1910. After establishing his practice in Norman, he became assistant physician at Central State hospital and later served as assistant superintendent. In 1934, he assumed duties as superintendent at Western State hospital at Fort Supply. Upon his retirement in 1948, he moved to Woodward.

Doctor Day was honored by the Oklahoma State Medical Association in 1951 when he was made a Life Member in recognition of his years of service to the profession. In addition, he was a member of the American Psychiatric Association and a life member of the Southern Medical Association.

WALDO B. NEWELL, SR., M.D.
1887-1960

Waldo B. Newell, Sr., M.D., Enid physician since 1919, died October 17, 1960.

A native of Anderson County, Tennessee, Doctor Newell graduated from Vanderbilt University School of Medicine. He came to Oklahoma in 1911, practicing first in Hunter, moving to Enid in 1919.

Doctor Newell was past-president of Garfield-Kingfisher County Medical Society.

Last May, Doctor Newell was honored for his service to the medical profession when the Oklahoma State Medical Association awarded him an Honorary-Life Membership.

CHARLES J. ALEXANDER, M.D.
1900-1960

Charles J. Alexander, M.D., long-time Clinton physician, died November 12, 1960 in an Oklahoma City hospital.

Born in 1900, the 60-year-old physician graduated from the Washington University School of Medicine in 1924. After taking his internship in St. Louis, he established his practice in Clinton and had remained there since that time.

BOOK REVIEWS

(Continued from Page 867)

sitivities are also included. The clinical findings and diagnostic tests are emphasized and less stress is placed on the "pure" microbiology. However, all of the topics are fairly short so that the physician can quickly review the characteristics of any organisms that he might encounter in clinical practice.

The features listed above tend to make the book less valuable for laboratory personnel. However, even they might find it of value as a ready reference.

A section of virology is unusually well organized and useful from the clinical standpoint. For anyone interested in a relatively short summary of the current status of virology and a ready reference on virus diseases, the book might actually be worth the cost on this feature alone. An excellent chart on laboratory diagnosis of virus diseases is included.

This book should appeal to many practicing doctors, but for the laboratory worker, a more detailed reference is indicated. *Henry T. Russell, M.D.*

AUXILIARY NEWS

(Continued from Page 869)

Margaret Wolfe's—National Auxiliary Secretary—working for 354 years, 24 hours a day without stopping.

"In just eight years, since 1952, you have engineered the drive for, and raised, $1,022,-725 for use as loans and scholarships for careers in medicine. To do this, you have had to come up with $354 daily for eight years. In addition, you organized 1,931 Future Nurses Clubs, promoted health career days, and participated in county fairs, science fairs, health forums, and career clubs for young people.

"What kind of a person is the average Woman's Medical Auxiliary member? She is a tireless worker when she is inspired by a cause. She is a planner who can look ahead to future needs. She is devoted, clever, practical, and resourceful." So, to all of you "devoted, clever, practical, and resourceful" Auxiliary members, and to each of your families, we wish to extend the very warmest Christmas wishes and our deepest desire: a healthy, happy 1961!

25 YEARS AGO

Articles published in *The Journal* of the Oklahoma State Medical Association, December, 1935.

One Answer to State Medicine

CARL PUCKETT, M.D.
Oklahoma City

The great agricultural sections of our country are rapidly becoming free of bovine tuberculosis through cooperation of the U. S. Department of Agriculture with the various state departments of agriculture and the people of these states. This is having and will have a decided influence in reduction of the tuberculosis rate in the territory involved. In fact this program has already shown its effect in the nation-wide reduction of tuberculosis; for without intelligent application of newer knowledge about this disease, we would have had a marked increase through the depression. This bovine tuberculosis program means particularly a reduction in bone, joint, intestinal and gland tuberculosis. In the past, in many sections of the country, bovine tuberculosis has accounted for twenty-five per cent of childhood infections. From this war on bovine infections we will see fewer and fewer crooked spines and stiff knees among children. It will effectively lead the way for the Government program for crippled children which also will be a Federal, state and people's cooperative effort for handicapped children.

The people are learning about childhood tuberculosis infection, and that if proper attention is given these infected children before active illness begins they may be protected. We are doing all we can to see that the public is informed. We are referring those children whom we find to react to tuberculin test in our surveys, to the family physician. Most of these are preclinical cases but they need protective care and supervision. When a physician tells the parents of these children, or young high school or college students, there is nothing the matter because they look well, he is giving them a false sense of security. The fact that the stethoscope reveals nothing does not change the picture; it is usually lung-gland infection and there is nothing to be heard. The x-ray will usually reveal something abnormal, and give information on how much treatment is needed. Even where the x-ray reveals nothing in a child or youth who reacts to the tuberculin test, observation and repeat tests should be made at six months' intervals. Defects and bad health practices should be corrected. In all cases look for the source of infection, for if contact continues all the physician does may be in vain. An inexpensive way to locate possible unrecognized cases in the home is to give the tuberculin test to all. Then look more thoroughly into the worst reactors, if any.

PHYSICIAN PLACEMENT

General Practice

John William Kennard, M.D., Blowing Rock Hospital, Blowing Rock, North Carolina; married; age 29; Bowman Gray School of Medicine, 1956; veteran; available August 29, 1960.

Carle H. Schroff, M.D., 3811 State Line, Kansas City 11, Missouri: Age 31; married; University of Kansas, 1959; veteran; available August, 1960.

Floyd E. Webb, Jr., M.D., 2527 Webster Drive, Alexandria, Louisiana; age 27; married; University of Oklahoma, 1957; available August, 1961.

Kenneth T. Woodsides, M.D., 1923 19th Loop, Sandia Base, Albuquerque, New Mexico; age 27; married; Medical College of Alabama, 1957; available April, 1961.

Internal Medicine

Spencer E. Berry, M.D., 13630 Flynn, Le Puente, California; single; University of Oklahoma, 1950; available now.

Jeanne B. Johnson, M.D., 4917 SE Cornell Drive, Bartlesville, Oklahoma; age 31; married; University of Oklahoma School of Medicine, 1955; specialty, internal medicine; eligible, immediately.

Sam A. Kinard, Jr., 3522 E. 17th Avenue, Denver 6, Colorado; age 29; married; Baylor University of Medicine, 1956; 2 years medical residency and 2 years cardiology residency; available July, 1961.

Jack G. Smith, M.D., 812 North Third St., Bellaire, Texas; age 32; married; University of Texas School of Medicine, 1953; available January, 1961.

Thomas Turner Walton, Jr., M.D., 7375 Churchill, Detroit, Michigan: Age 29; married; Baylor College of Medicine, 1955; Board eligible; veteran; specialty, internal medicine; desires group or associate practice; eligible, July 1961.

George F. Winks, Jr., 217 S. Boulevard, Apt. 1, Richmond, Virginia; age 28; married; Medical College of Virginia, 1957; board eligible; specialty, internal medicine; available July 1, 1961.

Locum Tenens

Harold W. Calhoon, M.D., Wesley Hospital, Oklahoma City. One year residency in Internal Medicine. Available July 1 to September 15th, 1960.

Russell M. Preston, M.D., 476 San Juan, Oak Harbor, Washington, desires six month's work in General Practice between time of separation from military service to beginning of residency training, January-July, 1960.

Obstetrics and Gynecology

Walter G. Crowe, M.D., Mercy Hospital, Pride 4, Locust St., Pittsburgh, Pennsylvania; age 39; married; University of Tennessee College of Medicine, 1955; board eligible; available March 10, 1961.

Gerald R. Keilson, M.D., Medical Arts Building, Dallas, Texas, age 31, married, University of Texas, 1953, board qualified, veteran, available in July 1960.

Juan C. Ruiz, M.D., 350 Park Ave., Lexington, Kentucky; age 36; married; University of San Marcos Medical School 1952; no military obligations; available July 1, 1960.

Robert B. Williams, M.D., 27 Normandy Road, Auburndale 66, Massachusetts; married; age 30; Tulane University, 1955; board certified; available July 1, 1961.

Surgery

David S. Bachman, M.D., 301 North 2nd St., Allentown, Pennsylvania; age 38; married; University of Buffalo, 1947; board certified general surgery; specialty, broncho-esophagology and thoracic surgery; available immediately.

Emmet J. Thorpe, M.D., 6811 Stockton Drive, Knoxville, Tennessee; age 32; married; George Washington University School of Medicine, 1951; completed Part I of the requirements of the American Board of Orthopedic Surgery; available immediately.

MISCELLANEOUS ADVERTISEMENTS

For Sale: G.E. 100-milliamper X-ray machine. Good condition. Contact John C. Wagner, M.D., Western State Hospital, Fort Supply, Oklahoma.

WANTED: Internist to join old established group in town of 10,000 population in West Texas. Need not be Board certified but with adequate residency training. Write Key A, THE JOURNAL, Oklahoma State Medical Association, P.O. Box 9696, Oklahoma City, Oklahoma.

FOR SALE: 100 M.A. X-ray machine. Contact C. P. Taylor, M.D., 1201-D East 5th, Ada, Oklahoma. FE 2-4424.

WANTED: Surgeon to join old established group in town of 10,000 population in West Texas. Need not be Board certified but with adequate residency training. Write Key A, THE JOURNAL, Oklahoma State Medical Association, P.O. Box 9696, Oklahoma City, Oklahoma.

WANTED: Board qualified surgeon and urologist to join Community Hospital-Clinic Staff. Contact Donald S. Leham, M.D., Medical Director, Elk City, Oklahoma.

Help Fight TB

Use Christmas Seals

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DECEMBER 1960
Volume 53 Number 12

Journal
OF THE OKLAHOMA STATE MEDICAL ASSOCIATION

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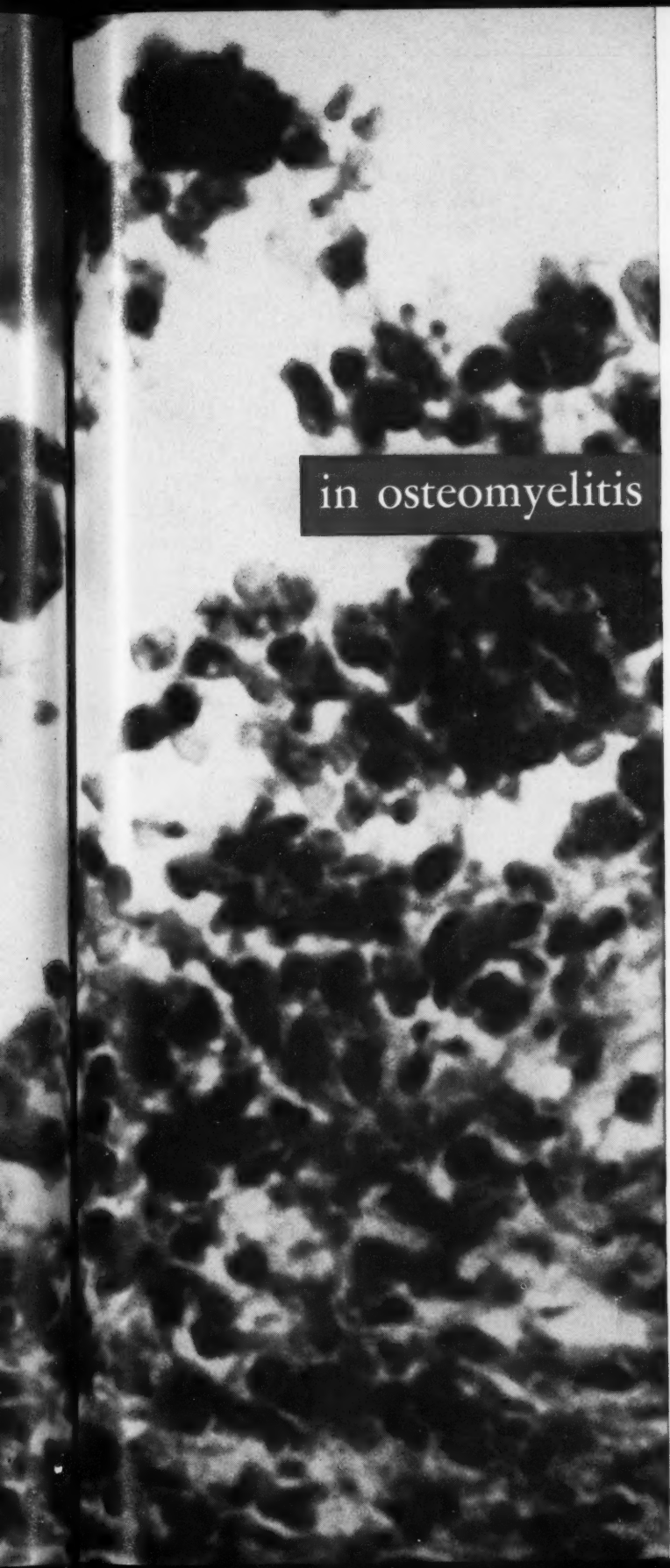

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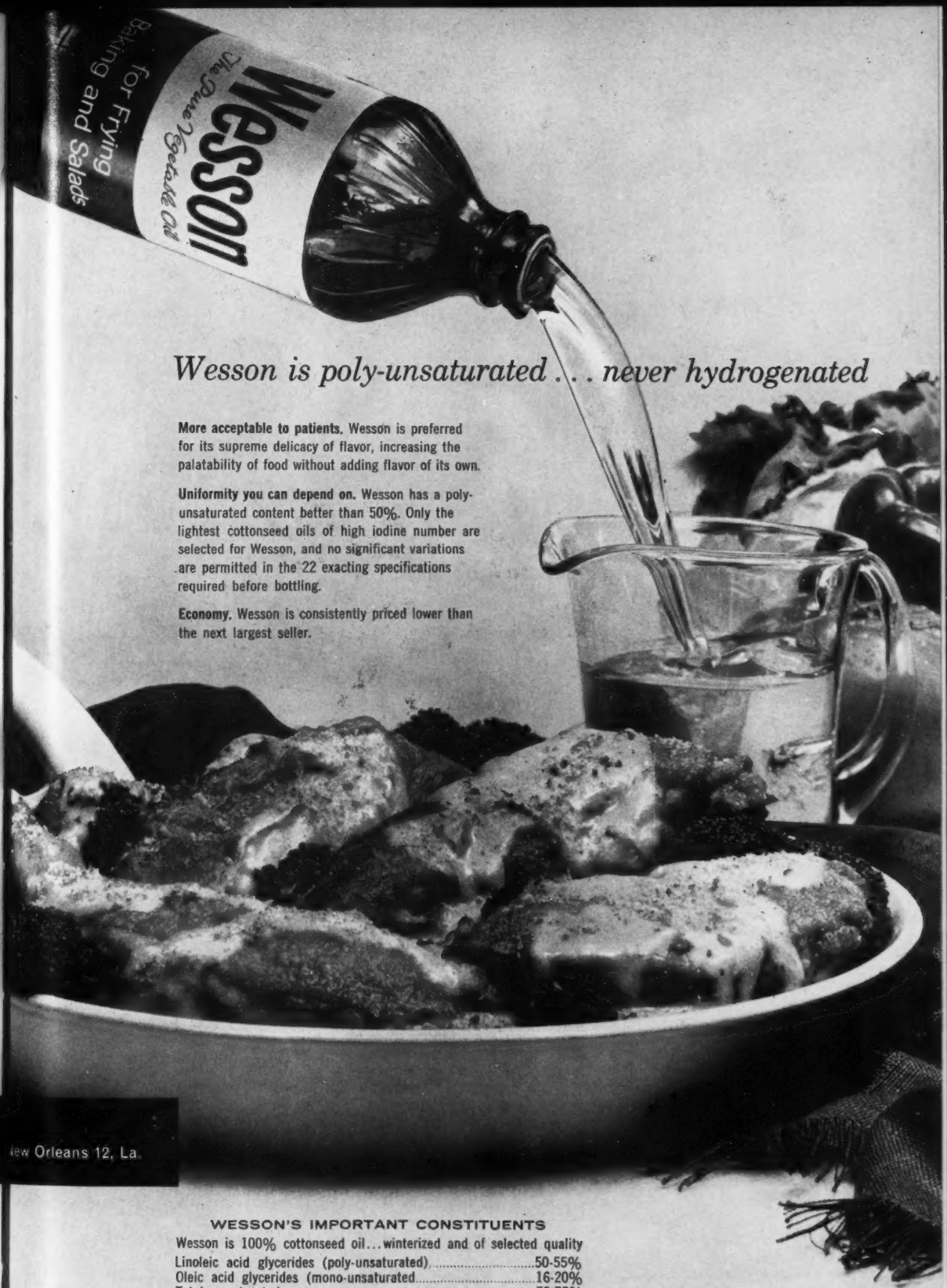

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References: 1. DeNyse, D. L.: *M. Times* 87:1512, Nov., 1959. 2. Ganz, S. E.: *J. Indiana M. A.* 52:1134, July, 1959. 3. Gruenberg, Friedrich: *Current Therap. Res.* 2:1, Jan., 1960. 4. Kearney, R. D.: *Current Therap. Res.* 2:127, April, 1960. 5. Lichtman, A. L.: *Kentucky Acad. Gen. Pract. J.* 4:28, Oct., 1958. 6. Mullin, W. G., and Epifano, Leonard: *Am. Pract. & Digest Treat.* 10:1743, Oct., 1959. 7. Shanaphy, J. F.: *Current Therap. Res.* 1:59, Oct., 1959. 8. Collective Study, Department of Medical Research, Winthrop Laboratories. 9. Hergesheimer, L. H.: An evaluation of a muscle relaxant (Trancopal) alone and with aspirin (Trancoprin) in an industrial medical practice, to be submitted.

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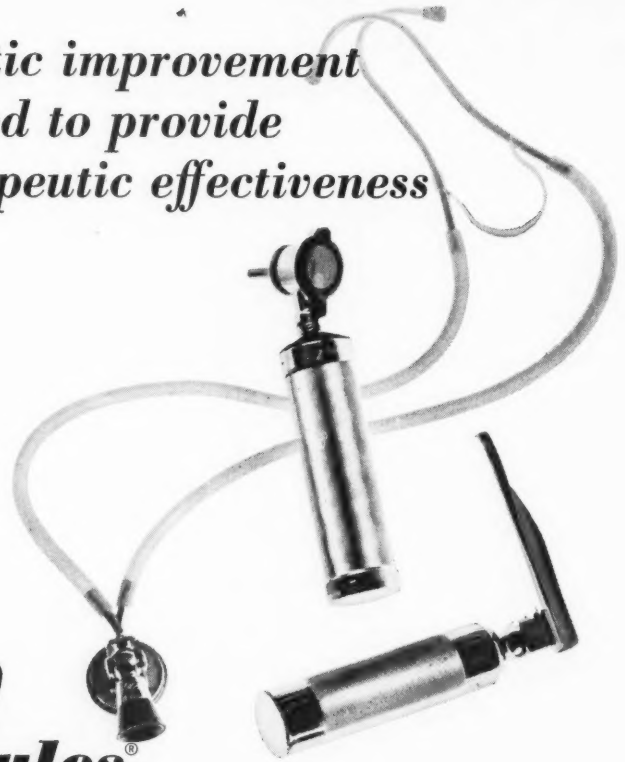

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1. Stephens, V. C., *et al.:* J. Am. Pharm. A. (Scient. Ed.), *48*:620, 1959.
2. Salitsky, S., *et al.:* Antibiotics Annual, p. 893, 1959-1960.
3. Reichelderfer, T. E., *et al.:* Antibiotics Annual, p. 899, 1959-1960.
4. Kuder, H. V.: Clin. Pharmacol. & Therap., in press.

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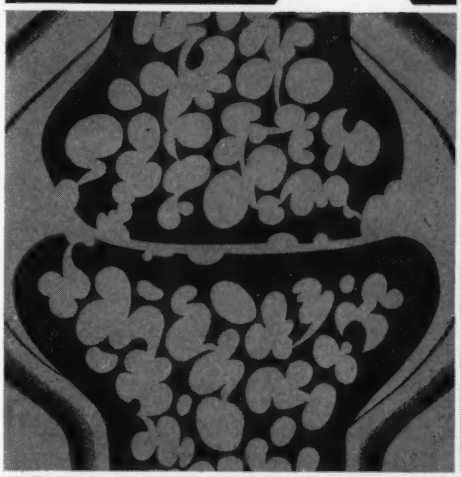

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1. Weissberg, G.: Clin. Med., June 1960.

2. Spoor, H. J.: N. Y. St. J. Med., Oct. 15, 1958.

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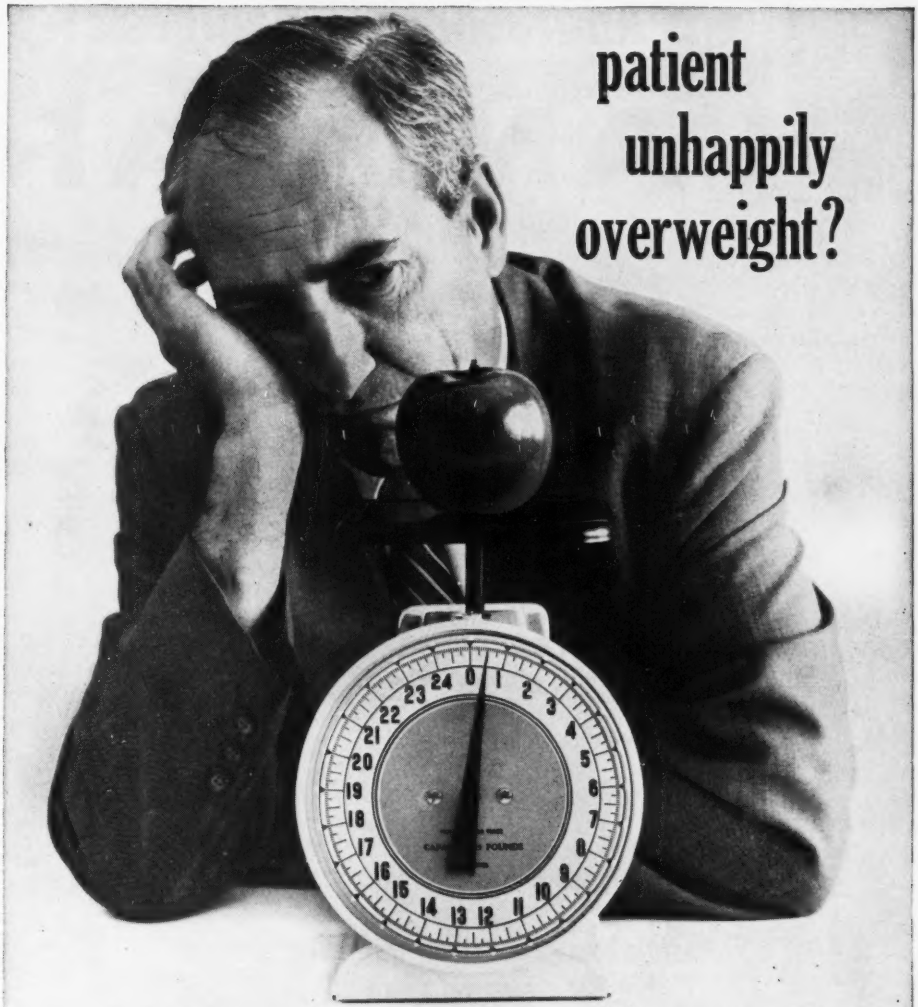

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[1] Douglas, H. S.: West. J. Surg. 59:238 (May) 1951.

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1. Scherbel, A. L.; Schuchter, S. L., and Harrison, J. W.: Cleveland Clin. Quart. 24:98, April, 1957.
2. Waine, Hans: Arthritis, rheumatoid, in Conn, H. F.: Current Therapy 1959, Philadelphia, W. B. Saunders Co., 1959, p. 565.

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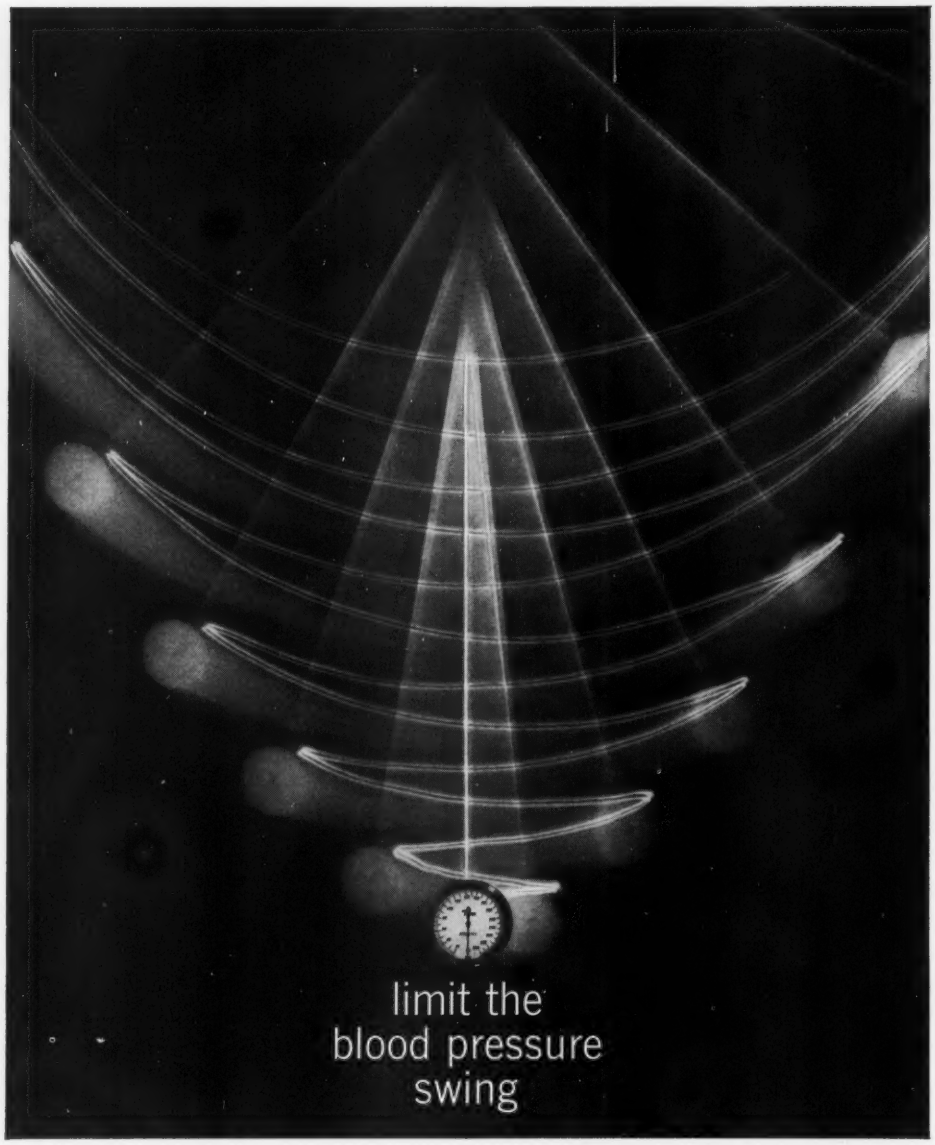

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Intravenous route: 1 Gm. every 6 hours using 50 ml. of sterile saline solution at the rate of 10 ml. per minute.

**Warning:* Solutions of STAPHCILLIN and kanamycin should not be mixed, as they rapidly inactivate each other. Data on the results of mixing STAPHCILLIN with other antibiotics are being accumulated.

DIRECTIONS FOR RECONSTITUTION

Add 1.5 ml. sterile distilled water or normal saline to a 1 Gm. vial and shake vigorously. Withdraw the clear, reconstituted solution (2.0 ml.) into a syringe and inject. The reconstituted solution contains 500 mg. of STAPHCILLIN per ml. Reconstituted solutions are stable for 24 hours under refrigeration.

For intravenous use, dilute the reconstituted dose in 50 ml. of sterile saline and inject at the rate of 10 ml. per minute.

*This statement supersedes that in the Official Package Circulars dated September and/or October, 1960.

(continued)

MICROBIOLOGICAL AND PHARMACOLOGICAL PROPERTIES

In vitro studies show that STAPHCILLIN is a bactericidal penicillin with activity against staphylococci resistant to penicillin G. Strains of staphylococci so far tested have been sensitive to STAPHCILLIN *in vitro* at concentrations of 1-6 mcg. per ml. These levels are readily attained in the blood and tissues by administration of STAPHCILLIN at the recommended dosage. This unique attribute is probably due to the fact that STAPHCILLIN is stable in the presence of staphylococcal penicillinase. STAPHCILLIN also resists degradation by *B. cereus* penicillinase. The antomicrobial spectrum of STAPHCILLIN with regard to other microorganisms is qualitatively similar to that of penicillin G; but considerably higher concentrations of STAPHCILLIN are required for bactericidal activity than is the case with penicillin G.

STAPHCILLIN is rapidly absorbed after intramuscular injection. Peak blood levels (6-10 mcg./ml. on the average after a 1.0 Gm. dose) are attained within 1 hour; and then progressively decline to less than 1 mcg. over a 4 to 6 hour period. It is poorly absorbed from the gastrointestinal tract. STAPHCILLIN is rapidly excreted by the kidney.

As shown by animal studies, STAPHCILLIN is readily distributed in body tissues after intramuscular injection. Of the tissues studied, highest concentrations are reached in the kidney, liver, heart and lung in that order; the spleen and muscles show lower concentrations of the antibiotic. STAPHCILLIN diffuses into human pleural and prostatic fluids, but its diffusion into the spinal fluid has not yet been completely studied. However, one patient with meningitis showed a significant concentration in his spinal fluid while on STAPHCILLIN therapy.

Toxicity studies with STAPHCILLIN and penicillin G in animals show that they have approximately the same low order of toxicity.

Certain staphylococci can be made resistant to STAPHCILLIN in the laboratory, but this resistance is not related to their penicillinase production. During the clinical trials, no STAPHCILLIN-resistant strains of staphylococci were observed or developed; the possibility of the emergence of such strains in the clinical setting awaits further observation.

PRECAUTIONS

During the clinical trials, several mild skin reactions, e.g., itching, papular eruption and erythema were observed both during and after discontinuance of STAPHCILLIN therapy. Patients with histories of hay fever, asthma, urticaria and previous sensitivity to penicillin are more likely to react adversely to the penicillins. It is important that the possibility of penicillin anaphylaxis be kept in mind. Epinephrine and the usual adjuvants (antihistamines, corticosteroids) should be available for emergency treatment. Because of the resistance of STAPHCILLIN to destruction by penicillinase, parenteral *B. cereus* penicillinase may not be effective for the treatment of allergic reactions. Information with regard to cross-allergenicity between penicillin G, penicillin V, phenethicillin (Syncillin) and STAPHCILLIN is not available at present. If superinfection due to Gram-negative organisms or fungi occurs during STAPHCILLIN therapy, appropriate measures should be taken.

SUPPLY

List 79502 — 1.0 Gm. dry filled vial.

BRISTOL LABORATORIES • SYRACUSE, NEW YORK
Division of Bristol-Myers Company

CUT HERE FOR FILING

UNIQUE SYNTHETIC "STAPH-CIDAL" PENICILLIN

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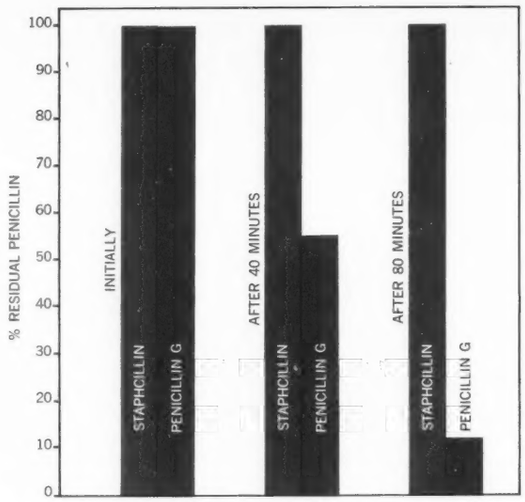


In the presence of staphylococcal penicillinase, STAPHCILLIN remained active and retained its antibacterial action. By contrast, penicillin G was rapidly destroyed in the same period of time. *(After Gourevitch et al., to be published)*

Specifically for "resistant" staph...

Staphcillin™

sodium dimethoxyphenyl penicillin
FOR INJECTION

The failure of staphylococcal infections to respond to penicillin therapy is attributed to the penicillin-destroying enzyme, penicillinase, produced by the invading staphylococcus.

Unlike other penicillins:

1 STAPHCILLIN is effective because it retains its antibacterial activity despite the presence of staphylococcal penicillinase.

2 The clinical effectiveness of STAPHCILLIN has been confirmed by dramatic results in a wide variety of infections due to "resistant" staphylococci, many of which were serious and life-threatening.

Like other penicillins:

STAPHCILLIN has no significant systemic toxicity. It is well tolerated locally, and pain or irritation at the injection site is comparable to that following the injection of penicillin G. *In occasional cases, typical penicillin reactions may be experienced.*

PROFESSIONAL INFORMATION SERVICE — The attached Official Package Circular provides complete information on the indications, dosage, and precautions for the use of STAPHCILLIN. If you desire additional information concerning clinical experiences with STAPHCILLIN, the Medical Department of Bristol Laboratories is at your service. You may direct your inquiries via collect telephone call to New York, PLaza 7-7061, or by mail to Medical Department, Bristol Laboratories, 630 Fifth Ave., N. Y. 20, N. Y.

BRISTOL LABORATORIES • SYRACUSE, NEW YORK
Division of Bristol-Myers Company

Bris
Med

ACUTE BRONCHITIS
SYNCILLIN
250 mg. t.i.d. – 6 days*
H.F. 45-year-old white female. First seen on Aug. 24, 1959 with acute bronchitis of 3 days' duration. Culture of the sputum revealed alpha hemolytic streptococci. A 250 mg. SYNCILLIN tablet was administered 3 times daily. Another sputum culture taken on Aug. 27 showed no growth. On Aug. 30, the patient appeared much improved and SYNCILLIN was discontinued. Recovery uneventful.
Illustrative case summary from the files of Bristol Laboratories' Medical Department
THE ORIGINAL phenethicillin
SYNCILLIN®
(phenoxyethyl penicillin potassium)
FIRST SYNTHESIZED AND MADE AVAILABLE BY BRISTOL LABORATORIES
A dosage form to meet the individual requirements of patients of all ages in home, office, clinic, and hospital:
Syncillin Tablets – 250 mg. (400,000 units)... Syncillin Tablets – 125 mg. (200,000 units)
Syncillin for Oral Solution – 60 ml. bottles – when reconstituted, 125 mg. (200,000 units) per 5 ml.
Syncillin Pediatric Drops – 1.5 Gm. bottles. Calibrated dropper delivers 125 mg. (200,000 units)
*Streptococcal infections should be treated for at least 10 days to prevent the development of rheumatic fever and as prophylaxis against bacterial endocarditis in susceptible patients.
Complete information on indications; dosage and precautions is included in the
BRISTOL LABORATORIES Div. of Bristol-Myers Co. SYRACUSE N.Y.
BRISTOL

Recognizing that the exchange of ideas is fundamental to medical progress, Lederle continues its Symposium program with the 10th year of scheduled meetings. Through these Symposia, sponsored by medical organizations with our cooperation, over 50,000 physicians have had the opportunity to hear and question authorities on important advances in clinical medicine and surgery. You have a standing invitation to attend any of these Symposia with your wife, for whom a special program is planned.

ANOTHER YEAR OF SYMPOSIA . . .

PORTLAND, OREGON
Wednesday, January 11, 1961
The Sheraton-Portland Hotel

MONTGOMERY, ALABAMA
Friday, January 13, 1961
The Whitley Hotel

MINNEAPOLIS, MINNESOTA
Monday, January 16, 1961
The Hotel Leamington

LEMONT, ILLINOIS
Wednesday, January 18, 1961
The White Fence Farm

CINCINNATI, OHIO
Sunday, January 22, 1961
The Netherland Hilton Hotel

NEW DORP, STATEN IS., N. Y.
Wednesday, February 15, 1961
The Tavern-on-the-Green

CHARLESTON, SOUTH CAROLINA
Thursday, February 23, 1961
The Francis-Marion Hotel

ANCHORAGE, ALASKA
Saturday, February 25, 1961
The Westward Hotel

BAKERSFIELD, CALIFORNIA
Friday, March 3, 1961
The Bakersfield Hacienda

WILLIAMSBURG, VIRGINIA
Wednesday, March 8, 1961
The Williamsburg Lodge

ALBUQUERQUE, NEW MEXICO
Saturday, March 11, 1961
The Hilton Hotel

OMAHA, NEBRASKA
Thursday, March 16, 1961
The Sheraton-Fontenelle Hotel

PHOENIX, ARIZONA
Saturday, March 18, 1961
The Westward Ho Hotel

LOUISVILLE, KENTUCKY
Thursday, March 23, 1961
The Sheraton-Seelbach Hotel

BAY SHORE, LONG ISLAND, NEW YORK
Wednesday, April 12, 1961
The LaGrange Inn

BUTTE, MONTANA
Saturday, April 22, 1961
The Finlen Hotel

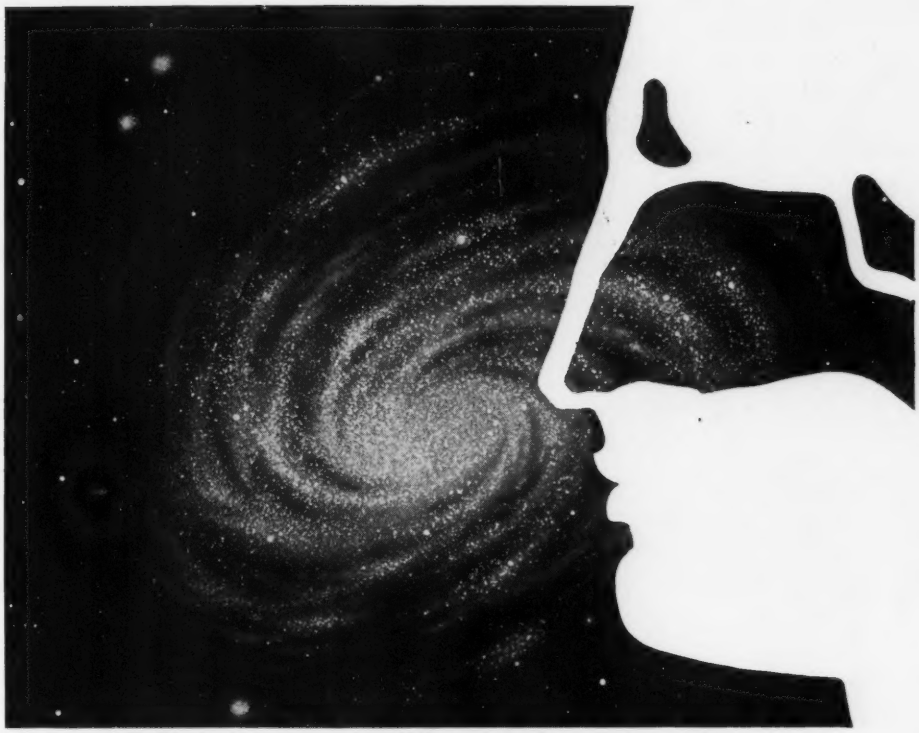
ITHACA, NEW YORK
Thursday, April 27, 1961
The Statler Club

ERIE, PENNSYLVANIA
Wednesday, May 3, 1961
The Hotel Lawrence

SACRAMENTO, CALIFORNIA
Wednesday, May 10, 1961
The El Dorado Hotel

LOS ANGELES, CALIFORNIA
Wednesday, June 7, 1961
The Statler Hotel

Lederle **LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, N. Y.**



IN COLDS AND SINUSITIS— THE RIGHT AMOUNT OF "INNER SPACE" RIGHT AWAY

Neo-Synephrine hydrochloride relieves the boggy feeling of colds immediately and safely, without causing systemic toxicity or chemical harm to nasal membranes. Turbinates shrink, sinus ostia open, ventilation and drainage resume, and mouth-breathing is no longer necessary.

Gentle Neo-Synephrine shrinks nasal membranes for from two to three hours without stinging or harming delicate respiratory tissues. Post-therapeutic turgescence is minimal. Neo-Synephrine does not lose its effectiveness with repeated applications nor does it cause central nervous stimulation, jitters, insomnia or tachycardia.

Neo-Synephrine solutions and sprays produce shrinkage of tissue without interfering with ciliary activity or the protective mucous blanket.

For wide latitude of effective and safe treatment, Neo-Synephrine hydrochloride is available in nasal sprays for adults and children; in solutions from ⅛% to 1%; and in aromatic solution and water soluble jelly.

Winthrop LABORATORIES
New York 18, N. Y.

NEO-SYNEPHRINE®
(Brand of phenylephrine hydrochloride)
hydrochloride
NASAL SOLUTIONS AND SPRAYS

NaClex®

benzthiazide

a new diuretic with an unsurpassed faculty for salt excretion

as salt goes, so goes edema

A basic principle of diuresis is that "increased urine volume and loss of body weight are proportional to and the osmotic consequences of loss of ions."[1]

Robins' new NaClex is a potent, oral, non-mercurial diuretic that helps reduce edema through the application of this fundamental principle. It limits the reabsorption of sodium and chloride in the renal proximal tubules (*with a relative sparing of potassium*). The body's homeostatic mechanism responds by increasing the excretion of excess extracellular water. Thus the NaClex-induced removal of salt leads to a reduction of edema.

a unique chemical structure

NaClex (benzthiazide) is a new molecule which provides a "pronounced increase in diuretic potency"[2] over its antecedent sulfonamide compound. Compared tablet for tablet with current oral diuretics, it is unsurpassed in diuretic potency.

twofold value

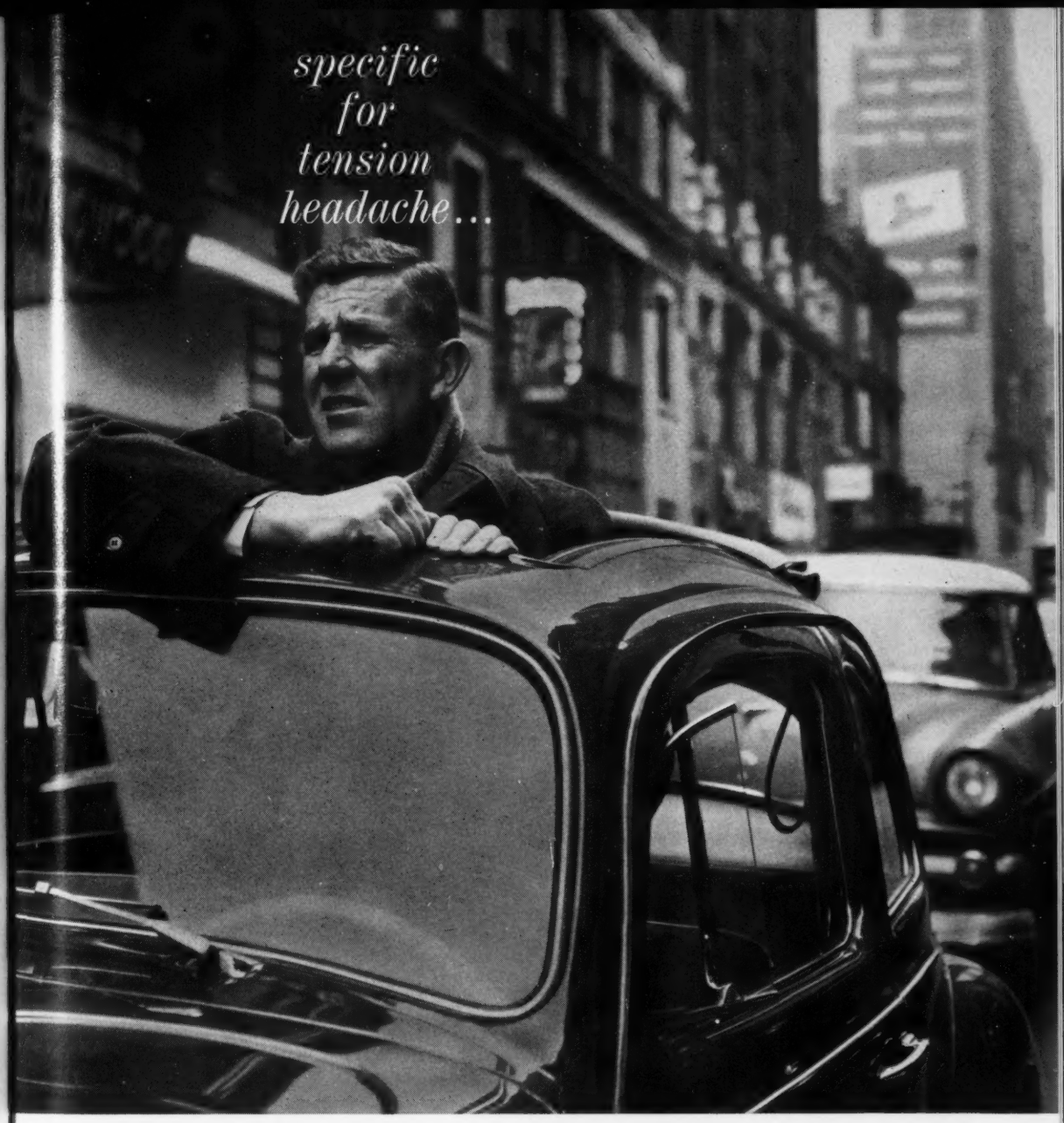
NaClex produces diuresis, weight loss, and symptomatic improvement in edema associated with various conditions. It also has antihypertensive properties and may be used alone in mild hypertension or with other antihypertensive drugs in severer cases.

For complete dosage schedules, precautions, or other information about NaClex, please consult basic literature, package insert, or your local Robins representative, or write to the A. H. Robins Co., Inc.

Supply: Yellow, scored 50 mg. tablets.

References: 1. Pitts, R. F., Am. J. Med., 24:745, 1958. 2. Ford, R. V., Cur. Therap. Res., 2:51, 1960.

A. H. ROBINS COMPANY, INC.
RICHMOND 20, VIRGINIA



FIORINAL®

relieves pain,
muscle spasm,
nervous tension

rapid action • non-narcotic • economical

"We have found caffeine, used in combination with acetylsalicylic acid, acetophenetidin, and isobutylallylbarbituric acid, [Fiorinal] to be one of the most effective medicaments for the symptomatic treatment of headache due to tension."

Friedman, A. P., and Merritt, H. H.: J.A.M.A. *163*:1111 (Mar. 30) 1957.

Available: Fiorinal Tablets and New Form — Fiorinal Capsules

Each contains: Sandoptal (Allylbarbituric Acid N.F. X) 50 mg. (3/4 gr.), caffeine 40 mg. (2/3 gr.), acetylsalicylic acid 200 mg. (3 gr.), acetophenetidin 130 mg. (2 gr.).

Dosage: 1 or 2 every four hours, according to need, up to 6 per day.

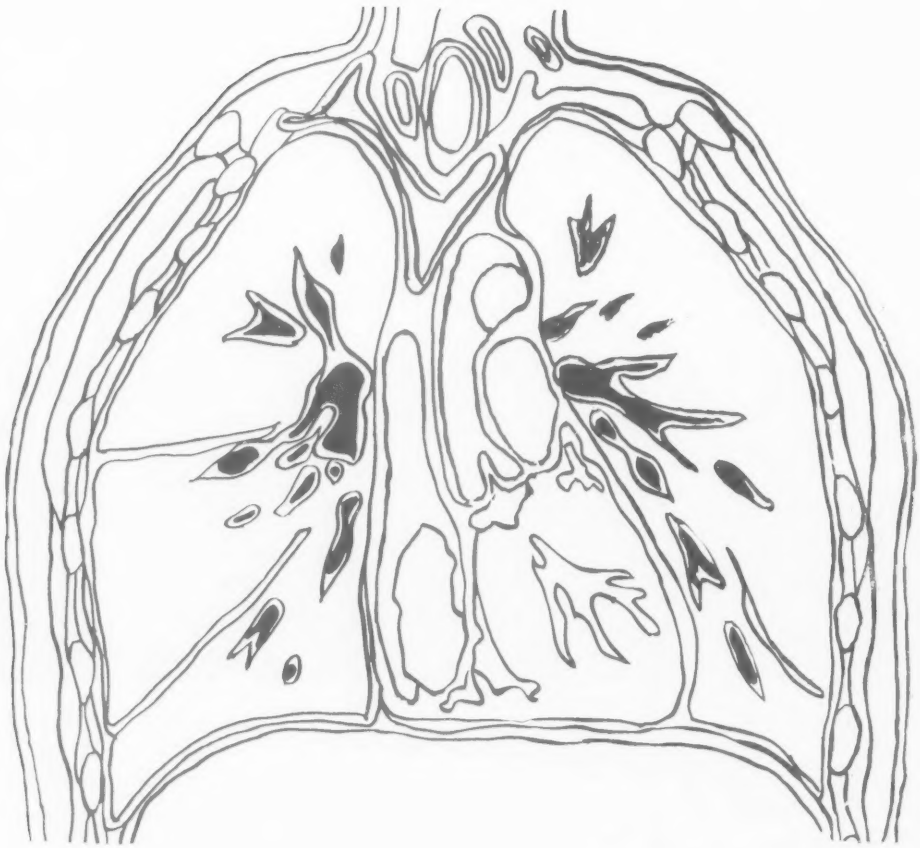
SANDOZ

for chronic bronchitis

Tetrex® capsules

The Original Tetracycline Phosphate Complex U.S. PAT. NO. 2,791,609

effective control of pathogens...with an unsurpassed record of safety and tolerance



SUPPLY: TETREX Capsules – tetracycline phosphate complex – each equivalent to 250 mg. tetracycline HCl activity. Bottles of 16 and 100.

TETREX Syrup – tetracycline (ammonium polyphosphate buffered) syrup – equivalent to 125 mg. tetracycline HCl activity per 5 ml. teaspoonful. Bottles of 2 fl. oz. and 1 pint.

BRISTOL LABORATORIES, SYRACUSE, NEW YORK
Div. of Bristol-Myers Co.

BRISTOL™

NEW PROTEIN TISSUE-BUILDING AGENT

ADROYD® N+

oxymetholone
Parke-Davis

FOR SIGNIFICANT ANABOLIC GAINS IN: ASTHENIA (UNDERWEIGHT, ANOREXIA, LACK OF VIGOR); CONVALESCENCE FROM SURGERY OR SEVERE INFECTIONS; WASTING DISEASES; BURNS; FRACTURES; OSTEOPOROSIS; AND IN OTHER CATABOLIC STATES

■ PROMOTES AND MAINTAINS POSITIVE NITROGEN BALANCE ■ HELPS RESTORE APPETITE, STRENGTH, AND VIGOR ■ BUILDS FIRM, LEAN MUSCULAR TISSUE ■ FAVORABLY INFLUENCES CALCIUM AND PHOSPHORUS METABOLISM ■ PROMOTES A SENSE OF WELL-BEING

ADROYD PROVIDES HIGH ANABOLIC ACTIVITY—The tissue-building potential of ADROYD exceeds its androgenic action to the extent that masculinizing effects have not been a problem in clinical use.* Other advantages of ADROYD are: Neither estrogenic nor progestational. No significant fluid retention. Apparent freedom from nausea, vomiting, and other gastrointestinal disturbances. Effective by the oral route.

See medical brochure, available to physicians, for details of administration and dosage.

Supplied: 10-mg. scored tablets, bottles of 30. 45760

*Reports to Department of Clinical Investigation, Parke, Davis & Company, 1958 and 1959.

PARKE-DAVIS

PARKE, DAVIS & COMPANY · DETROIT 32, MICHIGAN

In over five years

Proven
in more than 750 published clinical studies

Effective
for relief of anxiety and tension

Outstandingly Safe

1 simple dosage schedule produces rapid, reliable tranquilization without unpredictable excitation

2 no cumulative effects, thus no need for difficult dosage readjustments

3 does not produce ataxia, change in appetite or libido

4 does not produce depression, Parkinson-like symptoms, jaundice or agranulocytosis

5 does not impair mental efficiency or normal behavior

Miltown®

meprobamate (Wallace)

Usual dosage: One or two 400 mg. tablets t.i.d.
Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets.
Also as MEPROTABS*—400 mg. *unmarked*, coated tablets; and as MEPROSPAN®—400 mg. and 200 mg. *continuous release* capsules.

WALLACE LABORATORIES / *Granbury, N. J.*

CM-2537

*TRADE-MARK

s of clinical use...

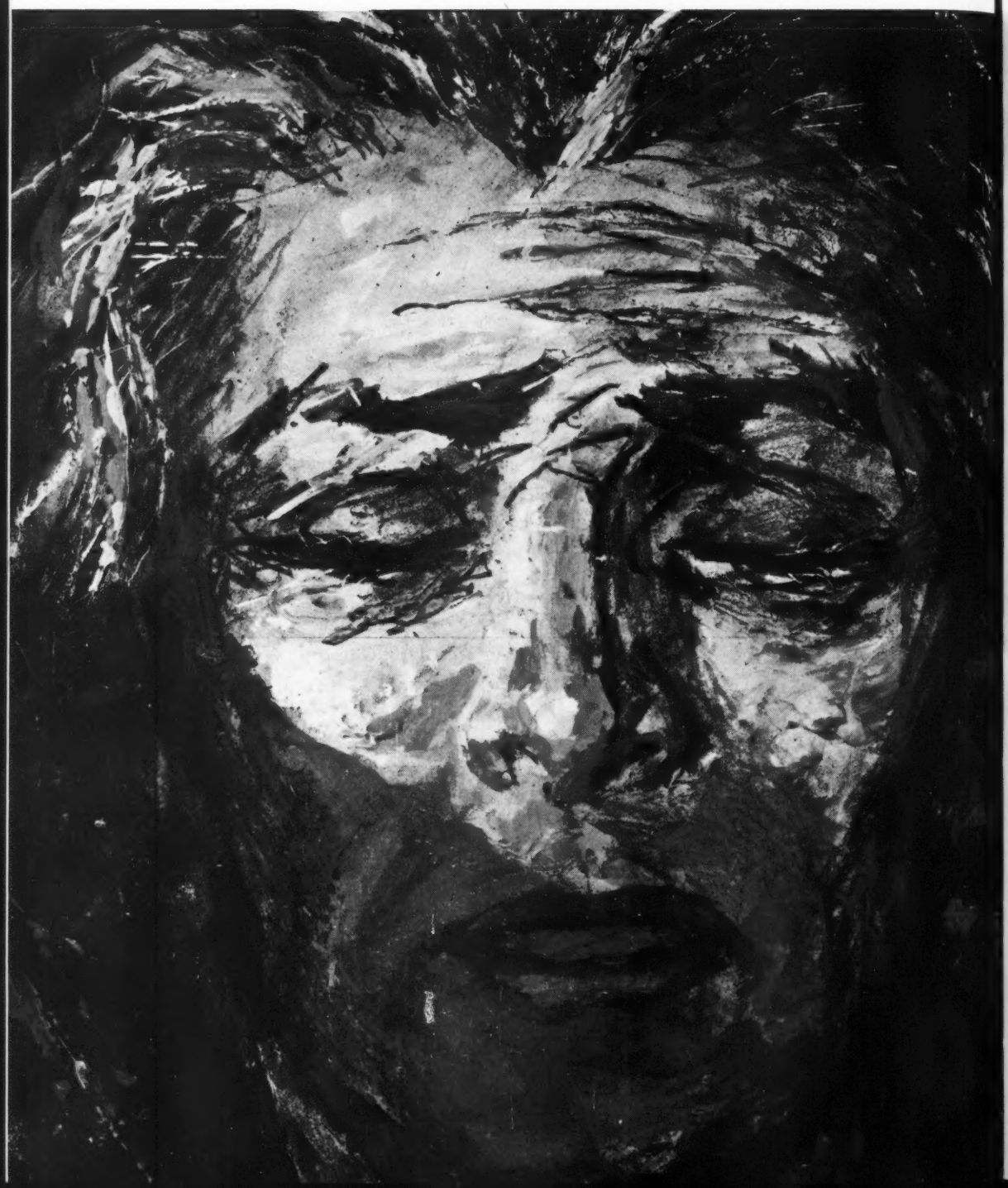
...for the tense and nervous patient

Despite the introduction in recent years of "new and different" tranquilizers, Miltown continues, quietly and steadfastly, to gain in acceptance. Meprobamate (Miltown) is prescribed by the medical profession more than any other tranquilizer in the world.

The reasons are not hard to find. Miltown is a ***known*** drug. Its few side effects have been fully reported. ***There are no surprises in store for either the patient or the physician.***

NEW analgesic

Kills pain



stops tension

For neuralgias, dysmenorrhea, upper respiratory distress, postsurgical conditions... new compound kills pain, stops tension, reduces fever—gives more complete relief than other analgesics.

Soma Compound is an entirely new, totally different analgesic combination that contains three drugs. First, Soma: a new type of analgesic that has proved to be highly effective in relieving both pain and tension.* Second, phenacetin: a "standard" analgesic and antipyretic. Third, caffeine: a safe, mild stimulant for elevation of mood. As a result, the patient gets more complete relief than he does with other analgesics.

Soma Compound is nonnarcotic and nonaddicting. It reduces pain perception without impairing the natural defense reflexes.*

NEW NONNARCOTIC ANALGESIC

soma® Compound

Composition: Soma (carisoprodol), 200 mg.; phenacetin, 160 mg.; caffeine, 32 mg.
Dosage: 1 or 2 tablets q.i.d.
Supplied: Bottles of 50 apricot-colored, scored tablets.

NEW FOR MORE SEVERE PAIN

soma® Compound + codeine

BOOSTS THE EFFECTIVENESS OF CODEINE: Soma Compound boosts the effectiveness of codeine. Therefore, only ¼ grain of codeine phosphate is supplied to relieve the more severe pain that usually requires ½ grain.

Composition: Same as Soma Compound plus ¼ grain codeine phosphate.
Dosage: 1 or 2 tablets q.i.d.
Supplied: Bottles of 50 white, lozenge-shaped tablets; subject to Federal Narcotics Regulations.

*References available on request.

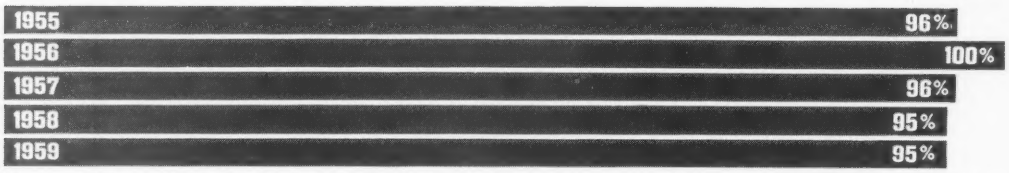
WALLACE LABORATORIES • Cranbury, N. J.

resistant
staphylococci
among
outpatients
emerge
less
frequently...
disappear
more
readily

CHLOROMYCETIN®

chloramphenicol, Parke-Davis

IN VITRO SENSITIVITY OF COAGULASE-POSITIVE STAPHYLOCOCCI TO CHLOROMYCETIN FROM 1955 TO 1959*



These sensitivity tests were done by the disc method on 310 strains of coagulase-positive staphylococci. Strains were isolated from patients seen in the emergency room. It should be noted that among inpatients, resistant strains were considerably more prevalent.

*Adapted from Bauer, A. W.; Perry, D. M., & Kirby, W. M. M.: *J.A.M.A.* **173**:475, 1960.

10360

CHLOROMYCETIN (chloramphenicol, Parke-Davis) is available in various forms, including Kapseals® of 250 mg., in bottles of 16 and 100.

CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

PARKE-DAVIS

PARKE, DAVIS & COMPANY · DETROIT 32, MICHIGAN

A special formulation for those troublesome cases of acute nonspecific diarrhea

DONNAGEL®-PG

Donnagel® with paregoric equivalent

Provides greater assurance of more comprehensive relief in acute self-limiting diarrheas through the time-tested effectiveness of two outstanding antidiarrheals—DONNAGEL and a paregoric equivalent. *Tastes good, too!*

Each 30 cc. (1 fl. oz.) of DONNAGEL-PG contains:

Powdered opium U.S.P. (equivalent to paregoric 6 ml.)	24.0 mg.
Kaolin	6.0 Gm.
Pectin	142.8 mg.
Natural belladonna alkaloids	
hyoscyamine sulfate	0.1037 mg.
atropine sulfate	0.0194 mg.
hyoscine hydrobromide	0.0065 mg.
Phenobarbital (¼ gr.)	16.2 mg.

SUPPLIED: Pleasant-tasting banana flavored suspension in bottles of 6 fl. oz.

Also available:

DONNAGEL® with NEOMYCIN — for control of bacterial diarrheas

DONNAGEL® — the basic formula — when paregoric or an antibiotic is not required.

A. H. ROBINS CO., INC. Robins
RICHMOND 20, VIRGINIA

(Continued from Page 866)

AMERICAN COLLEGE OF RADIOLOGY, Drake Hotel, Chicago, Feb. 8-11. William S. Stronach, LL.B., 20 N. Wacker Drive, Chicago 6, Executive Director.

AMERICAN UROLOGICAL ASSOCIATION, WESTERN SECTION, Hotel Sahara, Las Vegas, Nev., Feb. 6-9. Edmund Crowley, M.D., 1930 Wilshire Blvd., Los Angeles 57.

CENTRAL SURGICAL ASSOCIATION, Park Plaza Hotel, St. Louis, Feb. 16-18. Angus D. McLachlin, Victoria Hospital, London, Ontario, Canada, Secretary.

UNIVERSITY OF OKLAHOMA MEDICAL CENTER POSTGRADUATE SHORT COURSE, Cerebral Vascular Disease. Feb. 8. Medical school auditorium. Write Postgraduate Education, University of Oklahoma School of Medicine, 801 N.E. 13th, Okla. City, Okla.

MARCH

AMERICAN COLLEGE OF ALLERGISTS, Graduate Instructional Course and Seventeenth Annual Congress. March 12-17. Statler Hilton, Dallas, Texas. Write John D. Gillaspie, M.D., Treasurer, 2141 14th Street, Boulder, Colorado.

AMERICAN COLLEGE OF SURGEONS, SECTIONAL MEETINGS FOR SURGEONS AND GRADUATE NURSES, Hotels Bellevue-Stratford, Ben Franklin, and Sylvania, Philadelphia, March 6-9. William E. Adams, M.D., 40 E. Erie St., Chicago 11, Secretary.

AMERICAN SURGICAL ASSOCIATION, Boca Raton Hotel, Boca Raton, Fla., Mar. 20-24. W. A. Altemeier, M.D., Cincinnati General Hosp., Cincinnati 29, Ohio, Secretary.

MISSOURI STATE MEDICAL ASSOCIATION, Hotel Muehlebach, Kansas City, Mar. 18-21. John I. Matthews, M.D., 302 Bolivar, Jefferson City, Mo., Secretary.

NEW ORLEANS GRADUATE MEDICAL ASSEMBLY. March 6-9. The Roosevelt Hotel, New Orleans, Louisiana. Write Mannie D. Paine, Jr., M.D., Secretary, The New Orleans Graduate Medical Assembly, 1430 Tulane Ave., New Orleans 12, La.

UNIVERSITY OF OKLAHOMA MEDICAL CENTER POSTGRADUATE SHORT COURSE, Urology-Symposium and C. B. Taylor Lectureship. March 8. Medical School auditorium. Write Postgraduate Education, University of Oklahoma School of Medicine, 801 N.E. 13th, Okla. City, Okla.

APRIL

ALABAMA, MEDICAL ASSOCIATION OF THE STATE OF (members and guests), Hotel Stafford, Tuscaloosa, Apr. 27-29. Mr. W. A. Dozier Jr., 19 S. Jackson St., Montgomery 4, Ala., Executive Secretary.

AMERICAN ACADEMY OF GENERAL PRACTICE, Miami Beach, Fla., Apr. 13-20. Mr. Mac F. Cahal, Volker Blvd. at Brookside, Kansas City 12, Mo., Executive Director.

AMERICAN ACADEMY OF NEUROLOGY (members and guests), Sheraton-Cadillac Hotel, Detroit, Apr. 27-29. Mrs. J. C. McKinley, 4307 E. 50th St., Minneapolis 17, Executive Secretary.

AMERICAN ACADEMY OF PEDIATRICS, spring meeting, Sheraton-Park Hotel, Washington, D.C., Apr. 10-12. For information write E. H. Christopherson, M.D., 1801 Hinman Ave., Evanston, Ill., Executive Director.

AMERICAN ASSOCIATION FOR THORACIC SURGERY, Sheraton Hotel, Philadelphia, Apr. 24-26. Hiram T. Langston, M.D., 308 Carondelet Bldg., 7730 Carondelet Ave., St. Louis 5, Secretary.

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS, Americana Hotel, Miami Beach, Fla., Apr. 21-28. Mr. Donald F. Richardson, 79 W. Monroe St., Chicago 3, Executive Secretary.

ARKANSAS, MEDICAL SOCIETY (open to A. M. A. members), Hotel Marion and Robinson Auditorium, Little Rock, Apr. 16-19. Mr. Paul C. Schaefer, 218 Kelley Bldg., P.O. Box 1345, Fort Smith, Ark., Executive Secretary.

UNIVERSITY OF OKLAHOMA MEDICAL CENTER POSTGRADUATE SHORT COURSE, Surgery—Techniques of Cardiac Resuscitation. April 12. Medical school auditorium. Write Postgraduate Education, University of Oklahoma School of Medicine, 801 N.E. 13th, Okla. City, Okla.

UNIVERSITY OF TEXAS POSTGRADUATE SCHOOL OF MEDICINE, Second Annual Contact Lens Course. April 19, 20, 21. Houston, Texas. Course limited to board certified ophthalmologists or residents and fellows in ophthalmology. Write University of Texas Postgraduate School of Medicine, 410 Jesse Jones Library Building, Texas Medical Center, Houston, Texas.

SOUTHWESTERN SURGICAL CONGRESS (A. M. A. members may attend), St. Louis, Apr. 10-13. Mary O'Leary, 301 Pasteur Bldg., Oklahoma City 3.

MAY

AMERICAN COLLEGE OF PHYSICIANS, Americana Hotel, Miami Beach, Fla., May 8-12. Edward C. Rosenow Jr., M.D., 4200 Pine St., Philadelphia 4, Executive Director.

AMERICAN GYNECOLOGICAL SOCIETY, The Broadmoor, Colorado Springs, Colo., May 29-31. Albert H. Aldridge, M.D., 899 Park, Ave., New York 21, President.

AMERICAN OPHTHAMOLOGICAL SOCIETY (members only), The Homestead, Hot Springs, Va., May. Dr. Joseph A. C. Wadsworth, 108 E. 68th St., New York 21, Executive Secretary.

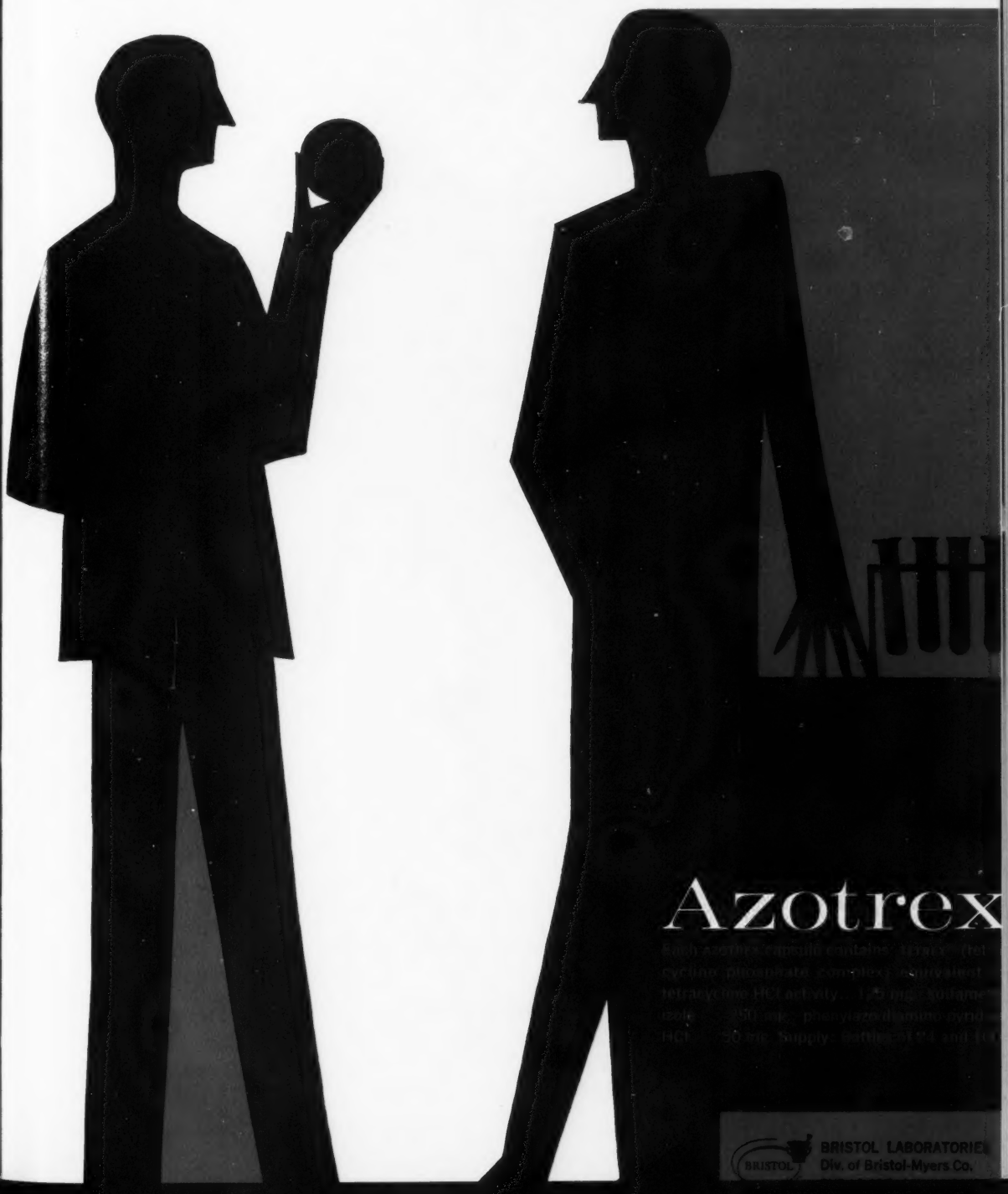
AMERICAN ORTHOPAEDIC ASSOCIATION (members and guests), The Ahwahnee, Yosemite, Calif., May 22-25. Lee Ramsay Straub, M.D., 535 E. 70th St., New York 21, Secretary.

AMERICAN PEDIATRIC SOCIETY, Hotel Traymore, Atlantic City, May 2-3. Conrad M. Riley, Denver General Hospital, Denver 4, Secretary.

(Continued on Page xxxvii)

"Well, I'll send the culture to the lab, and we should hear from Bacteriology in a day or two. Now, how shall we treat her cystitis while we're waiting?"

"The chief usually orders AZOTREX. *The azo dye is an excellent urinary analgesic and the sulfamethizole and tetracycline are likely to take care of most of the bugs you find in the urinary tract. If necessary, you can switch to something else after you get the lab findings. But it probably won't be necessary."*



NEOCHOLAN®

Your patient will often respond promptly to Neocholan therapy. It greatly increases the flow of thin, nonviscid bile and corrects biliary stasis by flushing the biliary system. It also relaxes intestinal spasm, resulting in an unimpeded flow of bile and pancreatic juice into the small intestine. Neocholan helps to promote proper digestion and absorption of nutrients. It also encourages normal peristalsis by restoring intestinal tone.

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(Continued from Page xxxiv)

AMERICAN PSYCHIATRIC ASSOCIATION, Morrison Hotel, Chicago, May 8-12. C. H. Hardin Branch, M.D., 156 Westminster Ave., Salt Lake City 15, Utah, Secretary.

AMERICAN SOCIETY OF INTERNAL MEDICINE, Eden Roc Hotel, Miami Beach, Fla., May 5-7. Mr. G. Tod Bates, 350 Post St., San Francisco 8, Executive Director.

AMERICAN THORACIC SOCIETY, Netherland-Hilton, Cincinnati, May 22-24. Mr. Frank W. Webster, 1790 Broadway, New York 19, Executive Secretary.

AMERICAN UROLOGICAL ASSOCIATION, INC., Biltmore Hotel, Los Angeles, May 22-25. Mr. William P. Didusch, 1120 N. Charles St., Baltimore 1, Executive Secretary.

KANSAS MEDICAL SOCIETY (members and guests), Broadview Hotel, Wichita, May 1-3. Mr. Oliver E. Ebel, 315 W. Fourth, Topeka, Kan., Executive Secretary.

LOUISIANA STATE MEDICAL SOCIETY, Hotel Roosevelt, New Orleans, May 8-10. C. Grenes Cole, M.D., 1430 Tulane Ave., New Orleans 12, Secretary-Treasurer.

NEW MEXICO MEDICAL SOCIETY, La Fonda, Santa Fe, N.M., May. Mr. Ralph B. Marshall, 220 First National Bank, Albuquerque, N. M., Executive Secretary.

OKLAHOMA STATE MEDICAL ASSOCIATION, Mayo Hotel, Tulsa, Okla., May 7-9. Mr. R. H. Graham, Box 9696, Oklahoma City, Okla., Executive Secretary.

UNIVERSITY OF OKLAHOMA MEDICAL CENTER POSTGRADUATE SHORT COURSE, Pediatrics—Infectious Diseases in Infancy and Childhood. May 10. Medical school auditorium. Write Postgraduate Education, University of Oklahoma School of Medicine, 801 N.E. 13th, Okla. City, Okla.

JUNE

AMERICAN COLLEGE OF CHEST PHYSICIANS, Hotel Commodore, New York City, June 22-26. Mr. Murray Kornfeld, 112 E. Chestnut St., Chicago, Executive Director.

AMERICAN DERMATOLOGICAL ASSOCIATION, INC. (members only), Castle Harbour Hotel, Tucker's Town, Bermuda, June 16-20. Wiley M. Sams, M.D., 25 S.E. Second Ave., Miami 32, Fla., Secretary.

AMERICAN NEUROLOGICAL ASSOCIATION, Hotel Claridge, Atlantic City, June 12-14. Melvin D. Yahr, M.D., Neurological Institute, 710 W. 168th St., New York 32, Executive Secretary.

AMERICAN RHEUMATISM ASSOCIATION, Hotel Roosevelt, New York City, June 22-23, 1961. Mr. Gerard W. Speyer, 10 Columbus Circle, New York 19, Executive Secretary.

SOCIETY OF NUCLEAR MEDICINE, Penn Sheraton Hotel, Pittsburgh, June 14-17. Mr. Samuel N. Turiel, 430 N. Michigan Ave., Chicago 11, Executive Administrator.

JULY

INTERNATIONAL COLLEGE OF SURGEONS, NEW ENGLAND REGIONAL MEETING, Chatham Bars Inn, Chatham, Cape Cod, Mass., July 1-4. M. Leopold Brodny, M.D., 4646 N. Marine Dr., Chicago 40, Treasurer.

SEPTEMBER

AMERICAN HOSPITAL ASSOCIATION, Atlantic City, Sept. 25-28. Mr. Maurice J. Norby, 840 North Lake Shore Dr., Chicago 11, Secretary.

COLORADO STATE MEDICAL SOCIETY, Shirley-Savoy Hotel, Denver, Sept. 19-21. Mr. Harvey T. Sethman, 835 Republic Bldg., Denver 2, Executive Secretary.

OCTOBER

AMERICAN ACADEMY OF PEDIATRICS, Palmer House, Chicago, Oct. 2-5. E. H. Christopherson, M.D., 1801 Hinmann Ave., Evanston, Ill., Executive Director.

AMERICAN COLLEGE OF SURGEONS, Chicago, Oct. 2-6. William E. Adams, M.D., 40 E. Erie St., Chicago 11, Secretary.

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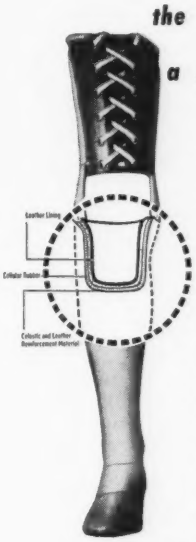

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★ Samples are available to physicians upon request. Please make your request on your prescription sheet or letterhead.

[1]New and Nonofficial Drugs 1959, p. 644.
[2]Duncan's Diseases of Metabolism, 4th ed., 1959, p. 412.

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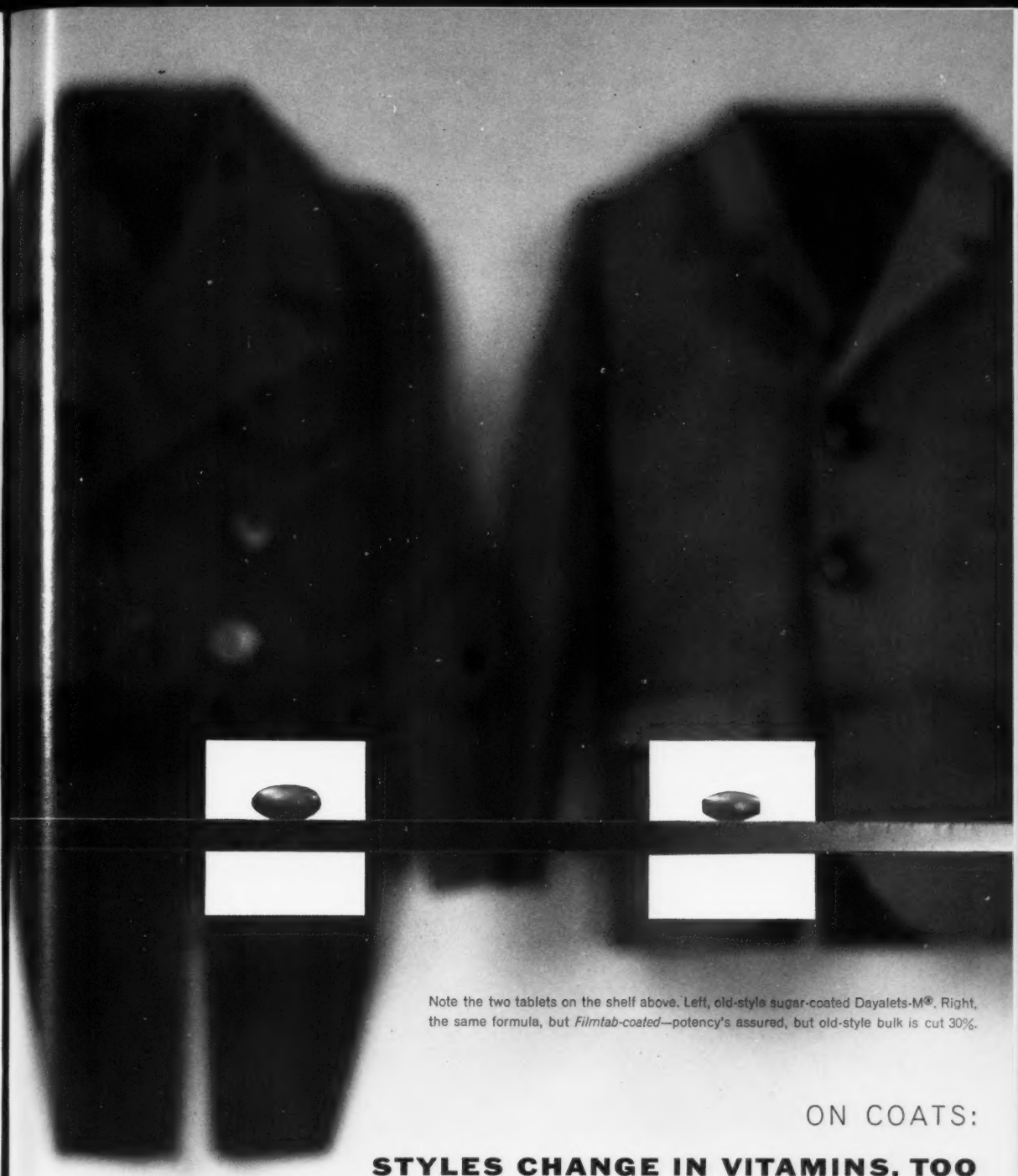

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Vitamin D	(1000 units) 25 mcg.
Thiamine Mononitrate (B_1)	2 mg.
Riboflavin (B_2)	2 mg.
Nicotinamide	20 mg.
Pyridoxine Hydrochloride	0.5 mg.
Vitamin B_{12} (as cobalamin concentrate)	2 mcg.
Calcium Pantothenate	5 mg.
Ascorbic Acid (C)	50 mg.
Iron (as sulfate)	10 mg.
Copper (as sulfate)	0.15 mg.
Iodine (as calcium iodate)	0.1 mg.
Manganese (as sulfate)	0.05 mg.
Magnesium (as oxide)	0.15 mg.
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Phosphorus (as calcium phosphate)	193 mg.

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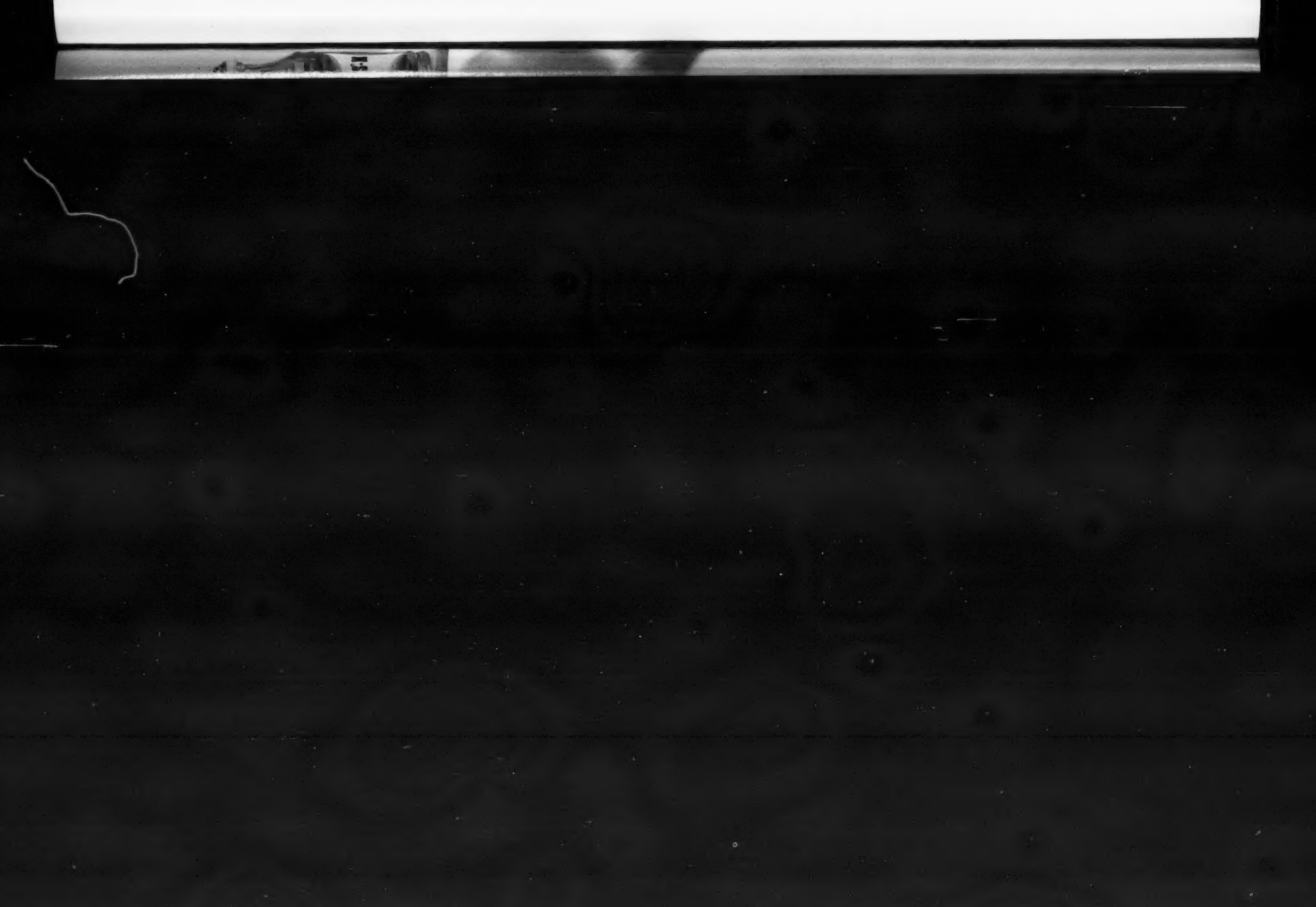

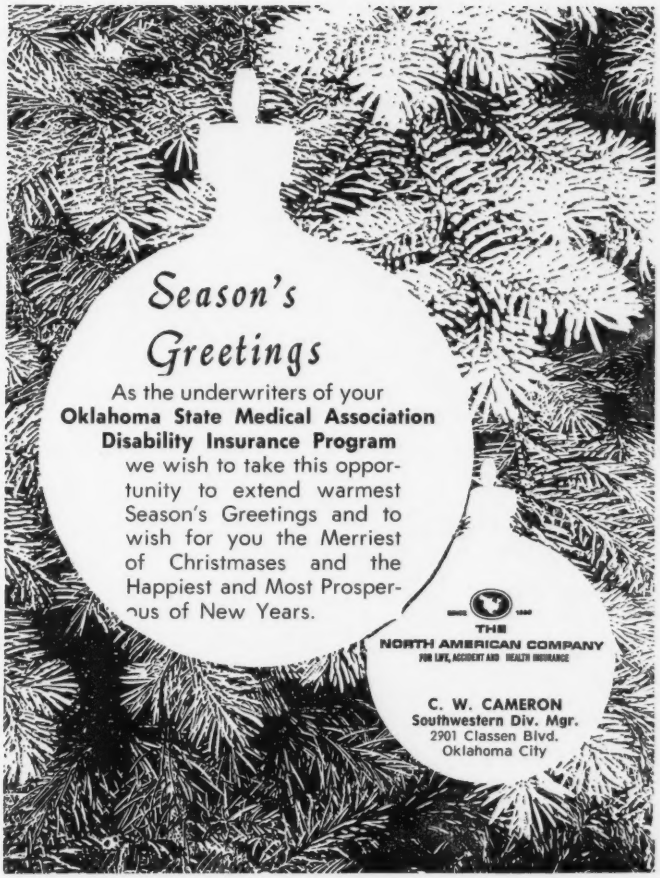
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Ferrous Fumarate (Iron)	150 mg.	Vitamin B-12 (Cobalamin conc. NF)	2 mcg.
Deep sea oyster shell (Calcium)	600 mg.	Folic Acid	0.25 mg.
Vitamin C	50 mg.	Niacinamide	10 mg.
Vitamin A	4000 USP Units	Vitamin K (Menadione)	0.25 mg.
Vitamin D	400 USP Units	Rutin	10 mg.
Vitamin B-1	2 mg.	Sodium Molybdate	3 mg.
Vitamin B-2	2 mg.	Fluorine (Calcium Fluoride)	0.25 mg.
Vitamin B-6	0.8 mg.	Iodine (Potassium Iodide)	0.15 mg.

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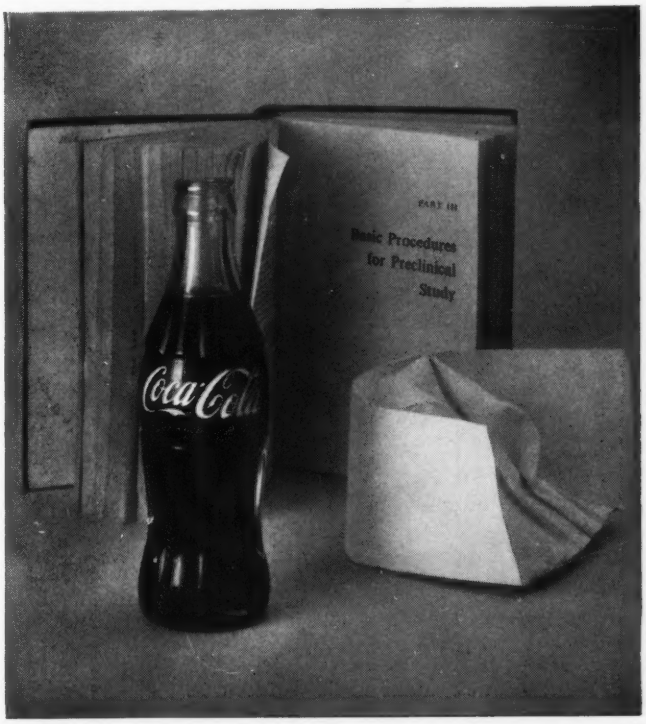

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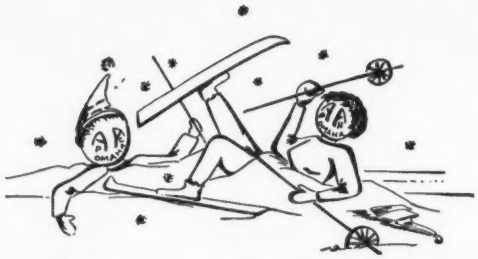

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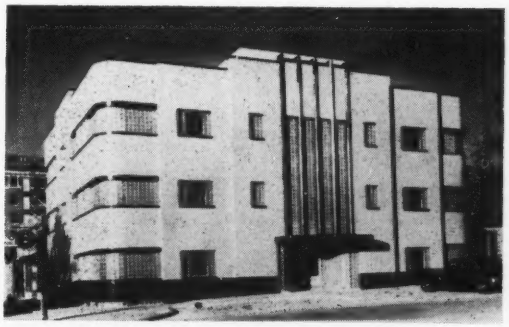

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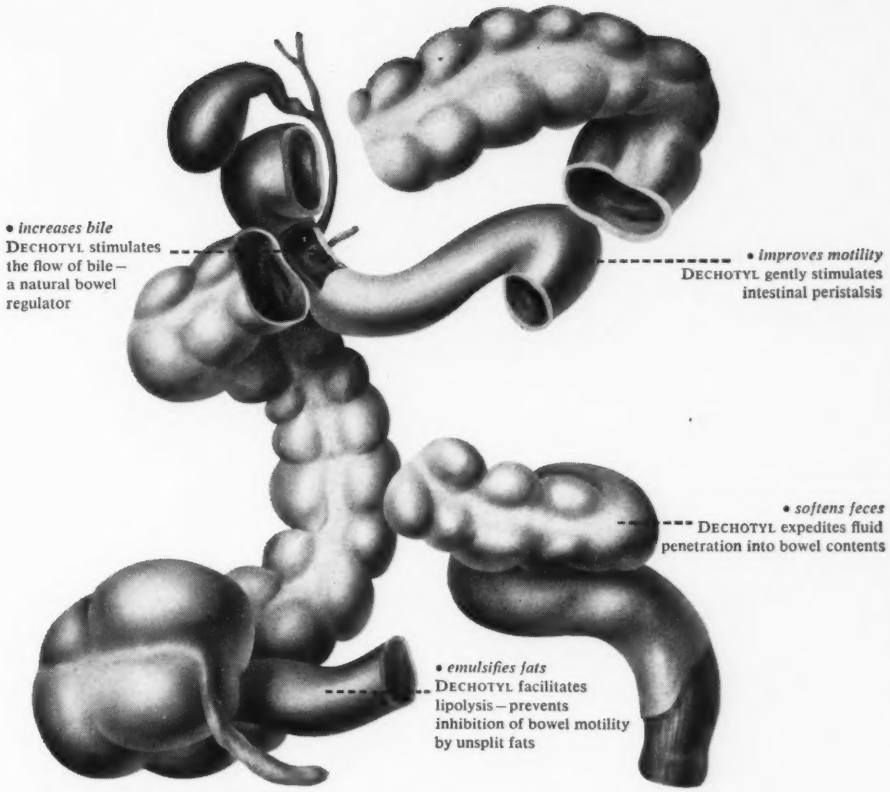
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To improve your patients' mood and to help them stick to their diets:

DEXAMYL® Spansule® capsules
Tablets • Elixir

brand of dextro amphetamine and amobarbital

Each 'Dexamyl' Spansule sustained release capsule (No. 2) contains 'Dexedrine' (brand of dextro amphetamine sulfate), 15 mg., and amobarbital, 1½ gr. Each 'Dexamyl' Spansule capsule (No. 1) contains 'Dexedrine', 10 mg., and amobarbital, 1 gr.

To curb appetite and to restore energy when your patient is listless and lethargic:

DEXEDRINE® Spansule® capsules • Tablets • Elixir

brand of dextro amphetamine

Each 'Dexedrine' Spansule sustained release capsule contains dextro amphetamine sulfate, 5 mg., 10 mg., or 15 mg.

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